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THE NEWSPAPER OF THE INDUSTRY

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INSIDE DOPE

by GEORGE F. TAUBENECK

Baseball Season Opens
According to Leo
More 'Babe' Ruth Stories
The Other 'Babe'
Batting Fifth

Baseball Season Opens

What Harry Heilmann was to the American League, Rogers Hornsby was to the National—only more so. "The Rajah" probably was the greatest right-handed batter of all time.

Confessed Jake May, an otherwise successful pitcher for the Cincinnati Reds:

"I've tried everything on that Hornsby. Last time the Cardinals were in town I fed him my high hard one, and he tripled off the scoreboard. My spitball he rapped for a double. He singled my best curve, and homered when I lofted a change-of-pace.

"Next time I face him there's only one thing to do—throw the ball beneath the plate."

Harry Heilmann gets off many a good crack and many an aged-in-the-wood reminiscence while he broadcasts Detroit Tigers baseball games. A legendary ballplayer himself, Harry's memory is well stocked with baseball lore.

Our favorite Heilmann experience occurred when Harry was neither hitting nor broadcasting.

Driving away from Briggs Stadium late one evening after the Bosox had shellacked the Tigers, Heilmann was stalled by a 10-block-long funeral procession.

"Must be a political funeral," somebody observed. "Lookit all those mourners."

"Naw," cracked Harry, "that's our first baseman. He rammed in toward the plate when Williams was supposed to bunt."

Like Dizzy Dean, "Old Slug" Harry Heilmann has made much more money as a sports broadcaster than he did as an all-star baseball player. Heilmann, incidentally, is one of the best yarn-spinners alive.

Four times, in odd-numbered years, Heilmann led all American League batters. His strongest competition came from his own club (the Tigers) which boasted such luminaries as Cobb, Crawford, and "Round Rob" Fothergill.

According to Harry, the obese Fothergill waddled up to the plate and jellied his rolls of blubber into an uneasy semblance of stance when a joker rushed over from the opponents' dugout.

"We protest this game!" he clamored.

"Why?" burpled the umpire, removing his mask.

"Both these fellas can't bat at the same time!"

Mickey Cochrane has one story which he tells over and over at banquets with telling effect. It's about the sensational rookie pitcher who was signed off the sandlots and rushed into a major league uniform all in one hectic week.

The kid's manager put him into a game (his club was hopelessly behind at the time) to see what he could do. The scared teen-ager didn't even know the signals. Cochrane tried to make them as simple as possible.

Look, Stan," he briefed the jittery rookie in a quick huddle, "one finger is for a curve and two for a fast ball."

Cochrane assumed his squat behind the plate and waggled one finger. The rookie hurled the ball against the screen. Mickey tried it again, and watched a wild pitch conk a fan sitting in the second deck.

Calling for time, the veteran catcher strolled toward the mound. Before he could open his mouth the youngster spluttered: "Please, Mr. Cochrane, signal a fast ball next time. I never learned how to throw with just one finger on the ball."

Potentially a great hitter, Dick Wakefield was a notoriously poor outfielder in his early years. Clumsy-footed and butterfingered, he booted in more runs than he batted in while

(Concluded on Page 6, Column 1)

Army Refrigeration Official Outlines Requirements, Asks Standardization

HAGERSTOWN, Md.—"Army Requirements in Refrigeration" were outlined to members of the Baltimore-Washington section of the American Society of Refrigerating Engineers at a meeting here recently by J. W. Millard, Research Director, Mechanical Products Section, Research and Development Branch, Military Planning Division of the Quartermaster General's Office.

Millard devoted a good part of his plea for a standardization of refrigeration equipment for the military, declaring that "while we recognize the tremendous cost of tooling for a military model, there are degrees of standardization which would be of enormous value to the Armed Forces and which could be accomplished by industry for a relatively small expenditure."

No single service in the Army procures all of the refrigeration equipment for the Army, Millard pointed out. In accordance with directive from higher authority, the Corps of Engineers has the responsibility for cold storage warehouses of the permanent type. They are also responsible for all air conditioning in the Army with the exception of specialized process air conditioning, which may be handled by the branch of service involved.

The Quartermaster Corps, on the other hand, is concerned with the relatively small unitary types of equipment of a mobile or portable nature. The Quartermaster Corps also has field maintenance of equipment in the Theatres of Operation as well as in camps and stations.

Millard's discussion was confined to items of Quartermaster equipment

(Concluded on Page 7, Column 1)

Certification Asked On All Copper Orders

DETROIT — Producers of copper products which are covered in NPA Order M-12 are demanding that all orders carry a certification that the use of copper products ordered by the purchaser will not be in violation of Order M-12.

Thus, refrigeration supplies wholesalers have been asking for such certifications from, for example, buyers of copper tubing.

The certification form generally considered acceptable reads as follows:

"The undersigned, subject to statutory penalties, certifies that acceptance of delivery and use by the undersigned of the copper forms or products herein ordered will not be in violation of NPA Order M-12."

Signed ( ) Buyer

The certification must be signed by the individual entering the order, or someone duly authorized by him. A rubber stamp facsimile signature is permissible.

The certification must be used even where the purchase is on a "DO" order.

NPA Preparing To Announce CMP Plan

WASHINGTON, D. C.—Announcement of a Controlled Materials Plan, to be put into operation in the third quarter of 1951, is expected very shortly.

The National Production Authority is said to be striving to have the forms and regulations concerning CMP ready for distribution by May 1. The government agency recognizes that one of the problems in conjunction with the plan will be to have given the industry sufficient information about its operation before it is put into effect.

Educational Conference Future To Be Weighed After All-Industry Show

BUFFALO—With the programmed series of Refrigeration and Air Conditioning Educational Exhibits and Conferences closed out with the Eastern Conference here April 6-8, the future of such conferences will probably not be decided until after the All-Industry Refrigeration & Air Conditioning Exhibition this November.

That was the opinion expressed by officers of Refrigerated Equipment

(Concluded on Back Page, Column 1)

Worker Deferment List Tightened

WASHINGTON, D. C.—The Department of Commerce lopped 47 industries off its "essential" activities list—used by the Defense Department in determining whether or not workers should be drafted—while the Department of Labor was revising its list of "critical" occupations.

The Commerce Department now classifies 25 industry groups as essential, compared with 72 groups on the original list issued last August. The new list includes food processing and heating, and maintenance and repair services for all activities on the list.

The Department of Defense has given consideration to a six-month deferment for workers in both "essential" industries and "critical" occupations.

Three standards were used by the

(Concluded on Back Page, Column 2)

Apex Files Appeal For More Material

CLEVELAND — Apex Electrical Mfg. Co. has filed an appeal with the steel and aluminum divisions of the National Production Authority, asking additional material beyond that now permitted it, in order that the company keep operating at a reasonable rate in the second quarter, it has been revealed by C. G. Frantz, president.

The company manufactures electrical appliances. Frantz said that the small savings effected by restrictions on metals use in the second quarter was "out of proportion to the serious dislocation caused in our appliance industry, for the reason that there has not been sufficient time to permit the orderly adjustment to non-critical materials and to effect a partial change-over to defense work."

The Apex executive said that good progress could be made to convert to production of military products, providing that the plant personnel is not seriously disrupted in the interval required for readjustment. A few hundred tons of aluminum and stee' is the difference between an efficient conversion and one that could cause serious dislocation, he declared.

Hermetics

Turn to page 19 for the first instalment of the new series *Servicing Hermetics In the Field.*

Food Groups' Book Cites Vital Role Of Refrigeration

WASHINGTON, D. C. — Seven major food processing and storage industries have cooperated in the preparation and publishing of a brochure entitled "What Price Food Preservation."

The brochure, a composite of statements by the several industries, tells the story of the vital need for refrigeration in the continued operation of these key industries, which are responsible for the major portion of the nation's food supply.

This 16-page publication, illustrated and printed in two colors, is designed primarily for use in discussions with the various government agencies directly concerned with national defense matters.

The brochure is also expected to have much value in reviewing materials, manpower, and other operating requirements with the field offices of government agencies.

The food processing and storage industry trade associations which jointly sponsored the brochure in cooperation with the Air Conditioning & Refrigerating Machinery Association, representing the refrigeration equipment manufacturers, are:

American Meat Institute, International Association of Ice Cream

(Concluded on Page 4, Column 4)

Pricing Amendment To Prevent Retailers from Taking Full Markup

WASHINGTON, D. C. — In addition to bringing all electrical housewares under the margin-type price control, Amendment 2 to Ceiling Price Regulation 7 issued early this month also contains a new section that prevents the retailer from taking his percentage markup on any increases granted to the manufacturer or wholesaler, a perusal of the text of the amendment reveals.

Under this new section—Section 30A—the retailer is informed that he may get his price from his supplier in two parts. One will be the basic price for the commodity and the other will be the "permitted increase" granted to the supplier by OPS.

The permitted increase is defined as that portion of the increase granted to the supplier which the regulation allows the retailer to pass on to the consumer.

The retailer must use the basic price to find his net cost for determining the ceiling price. Then he can add the amount of the permitted increase to his ceiling price determined from the basic price.

On the surface of it, this section will apparently prevent the dealer from taking his full markup on increased prices of his suppliers and will, in effect, reduce his own mark-

(Concluded on Back Page, Column 1)

Johnston Sees No Easing Of Controls on Credit

CHICAGO—Some cold water was tossed on the hopes for easing of consumer credit controls by Eric Johnston, economic stabilization director, in his talk last week to a group of Chicago businessmen.

While admitting that there are no marked shortages at present in civilian goods, Johnston said that cutbacks in metal use for civilian goods combined with the purchasing power generated by defense activity, will create inflationary tendencies that will necessitate strict regulations.

Coolerator Adds 5 New Models to Refrigerator Line

Ward Schafer Resigns as V. Pres.; Skowbo, Conley Take Over Duties

DULUTH, Minn. — Five "supplementary" models of household electric refrigerators were introduced to Coolerator distributors early this month at a series of meetings held across the country, W. C. Conley, Jr., vice president in charge of sales for the Coolerator Co. here, announced recently.

The new long, narrow models feature bigger capacities in smaller cabinets, door shelves on the two 10.4-cu. ft. boxes, and four zones of cold in the top models.

Distributors were also briefed on Coolerator's spring merchandising and promotional campaign designed to "sell what we've got," and described by Conley as one of the most intensive spring and early summer campaigns in Coolerator history.

The new "supplementary" models bring the complete line to nine models. The company can deliver all

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DULUTH, Minn.—Ward R. Schafer, vice president and general manager of the Coolerator Co., has resigned effective May 1 and will become a Coolerator distributor, it has been announced by L. W. Hamper, president.

It was stated that Schafer's duties will be taken over by F. W. Skowbo and W. C. Conley, Jr., both vice presidents. Skowbo will be in charge of operations, and Conley will direct all marketing activities. Both men have been named to the company's board of directors.

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but one model in the refrigerator line, Conley asserted.

All of the new models have long doors with the compressor mounted on the back to utilize the entire cabinet interior for food storage. The two 10.4-cu. ft. cabinets measure only 28½ in. wide, and the three models with more than 8-cu. ft. capacity have cabinets only 24½ in. wide.

The 10 cu. ft. refrigerators are the RD-1104 and the RC-1103 and both provide four zones of cold.

These zones are the freezing cold in the full width, across-the-top freezer compartment; chilling cold in

(Concluded on Page 21, Column 2)

Bush Elects Boling As General Manager

WEST HARTFORD, Conn.—Cecil Boling, associated with Bush Mfg. Co. for the past 11 years, has been elected vice president and general manager, it was announced recently. The action is retroactive to April 1.

Cecil Boling

During the time Boling has been connected with the company, he has acted as sales representative for Bush in its eastern territory, operating through his own organization, the Cecil Boling Co., with headquarters in New York City.

The new vice president and general manager has had extensive experience in sales and engineering in the refrigeration and air condition-

(Concluded on Page 21, Column 3)

Cadillac Refrigerator Will Sell for $259.95

NEW YORK CITY—A new, 8-cu. ft. home refrigerator with a frozen food compartment of 28 lbs. capacity has been introduced by Cadillac Electronics here, manufacturer of television receivers and home refrigerators, it was announced recently by I. R. Ross, president.

The new unit, which is U. L. approved, features an extra large vege-

(Concluded on Page 4, Column 5)

G-E Erie Works Sets Up Turbine Parts Section

ERIE, Pa. — Establishment of the turbine parts section of the household refrigerator department, together with the initial appointments of personnel to organize the section, were announced at the Erie Works of General Electric Co.

The new section, which will engage in defense work, is being temporarily housed in the east end of Bldg. 63. Eventually the operation is to be moved to permanent quarters.

George J. Kane, formerly superintendent of the food freezer section, refrigerator department, has been appointed manager of manufacturing of the new turbine parts section.

F. H. Brehob, engineer of the L & CE department, most recently engaged in a cost reduction program for the locomotive section, becomes the engineer in charge of the turbine parts section.

Dr. Richard H. Gale, since December, 1949, assistant to the engineer of the refrigerator Works Laboratory, is named engineer of the laboratory, turbine parts section.

Chart Shows Monthly Refrigerator Activity

CHICAGO—A table showing what portion of the year's refrigerator deliveries a distributor makes each month was compiled recently by the Harry Alter Co. here.

Using figures from his own operation over the past five years, the Crosley distributor came up with an average percentage for each month's movement as compared with the annual total.

Alter believes that these figures follow pretty closely the retail movement of refrigerators also.

Jan.	5.92%
Feb.	7.06%
March	5.94%
April	9.44%
May	9.90%
June	8.66%
July	10.05%
Aug.	8.43%
Sept.	6.90%
Oct.	11.32%
Nov.	8.63%
Dec.	7.75%

Cooled Cutting Oils Boost Machine Production

NEW YORK CITY—Output from metalworking automatic machines is being increased 25 to 50% by installation of new refrigeration equipment for cooling cutting oils used in tool operations, it was reported by B. S. Williams, president of the B. S. Williams Co., Inc., manufacturer of such devices, during a demonstration here.

Developed partly as a result of tests made during World War II, the refrigeration effect enables machine operators to hold a predetermined temperature on cutting tool tasks over long periods of time, Williams pointed out.

Errors caused by temperature variation are reduced, it was stated, thereby eliminating much time consumed in making minute adjustments of tools for differences in temperature ranges.

RACCA Offers Any Contractor a Copy of Refrigeration Maintenance Agreement

NEW YORK CITY—A Standard Refrigeration Maintenance Agreement is being made available without charge by the national office of the Refrigeration and Air Conditioning Contractors Association to all refrigeration and air conditioning contractors who will write in to national headquarters for information about association membership, and requesting the copy of the maintenance agreement.

Such requests should be addressed to Refrigeration and Air Conditioning Contractors Association, 154 Nassau St., New York City, states Ted Reina, president of RACCA.

While the standard contract being offered by the association is one covering domestic refrigeration maintenance, the provisions and wording are such that they can be adapted to commercial refrigeration or air conditioning operations, it is stated.

The maintenance agreement form includes such parts as

(a) How and when payment is to be made.

(b) Space for description of the equipment.

(c) Statement of what the refrigeration company agrees to do.

(d) Statement of what the customer agrees to do.

(e) Statement of what is mutually agreed upon by the refrigeration company and the customer.

The latter section, for example, contains such provisions as follows: "The company does not guarantee or warrant the continued use and/or operation of the refrigerator, nor are they to be held liable for any losses or damages due to the cessation or interruption of the use of the said refrigerator. The company agrees only to repair and place back into operation the refrigeration equipment stated above, only after timely notice in writing has been given to the company by the customer, and subject to all the other conditions of this agreement."

Cooling Season Opened

Philco Distributor's Ad Features Room Units

NEW YORK CITY—The air conditioning sales season was opened here recently by Philco Distributors, Inc. with a full-page advertisement featuring Philco room air conditioners in the *New York Times*.

Headline read: "This summer and for summers to come . . . when it's hot (picture of sad-looking, portly gentleman mopping his sweating brow) . . . keep cool (picture of same gentleman wreathed in smiles) with a Philco air conditioner."

Generous space was taken to picture and describe four models of room air conditioners. These were the models 50 and 75 window-type units and the models 100 and 200 console-type units.

The description was strictly factual giving various specifications.

A prominent box in the lower left hand corner introduced P.S.I. This, said copy, is "Philco Service Inc., servicing Philco products exclusively. The largest factory trained group of installation and servicing technicians in the air conditioning field. Your assurance of proper installation and prompt, efficient, and courteous service."

Baumgardner Appointed as Consultant to NPA Branch

WASHINGTON, D. C.—Appointment of Carroll M. Baumgardner as consultant to the Heating Branch, Building Materials Division, National Production Authority, U. S. Department of Commerce, has been announced.

Baumgardner is vice president and director of the National Radiator Co., Johnstown, Pa.

Cuba Plans Construction of 3 Fish Refrigeration Plants

HAVANA, Cuba — A request for bids for the construction of three fish refrigeration plants was published recently by the National Development Commission here. The plants are to be erected at Neuva Gerona (Isle of Pines), Santa Cruz del Sur, and Nuevitas (Camaguey).

Produce Packers Get Promise of 'Fair Share' of Materials

COLUMBUS, Ohio — Members of the Produce Prepackaging association, at their first conference and exposition held here recently, were promised a "fair share" of the allocations of plastic film and other needed materials, reports Robert A. Cooper, new secretary of the organization.

The most severe shortage of material used in the industry is in polyetheylene. Cellophane also is in short supply, but one large producer has promised some increase in output. A new product licensed by du Pont has also entered the field.

Supply of pliofilm available for prepackaging is generally "good," it was stated by a representative of Milprint, Inc., who declared that the principal producer of cellulose acetate had promised additional tonnage of this material for the industry in the middle or near the end of the year.

In addition to word of a favorable supply situation, those attending the conference were further cheered by reports of advances made in selling pre-packaged produce. A representative of the Atlantic Commission Co., produce-buying affiliate of A & P Food Stores, said that increasing acceptance of consumer-size units indicates ultimate demand by every type of modern retail food outlet.

A number of pre-packagers reported that for the first time they are now working through the summer growing seasons, which occur at different times throughout the country. This indicates, he said, that the trade has recognized the advantages of pre-packaged produce and is seeking it even when "home-grown" bulk produce may be more readily available.

Cooper said that last year the prepackaging industry "unitized" a total of 3,348,340,000 lbs. of produce. To do this, he said, it used 12,000,000 lbs. of flexible film, 50,000,000 lbs. of paperboard, 201,000,000 lbs. of mesh bags, and 17,000,000 paper-mesh-window bags.

Cooper claimed that this resulted in savings of 167,000,000 lbs. of fresh food, 17,000,000 man-hours of labor, as well as 7,100 freight carloadings.

Harrington, Former G-E Sales Mgr., Dies at 54

SCHENECTADY, N. Y. — Elliott Dean Harrington, former sales manager of General Electric Co.'s air conditioning and commercial refrigeration department, died recently at his home here of a heart attack. He was 54.

At the time of his death, Harrington was head of mobilization activities of the small and medium motor divisions of General Electric.

IF IT'S CUSTOMERS YOU WANT

...then start now and install

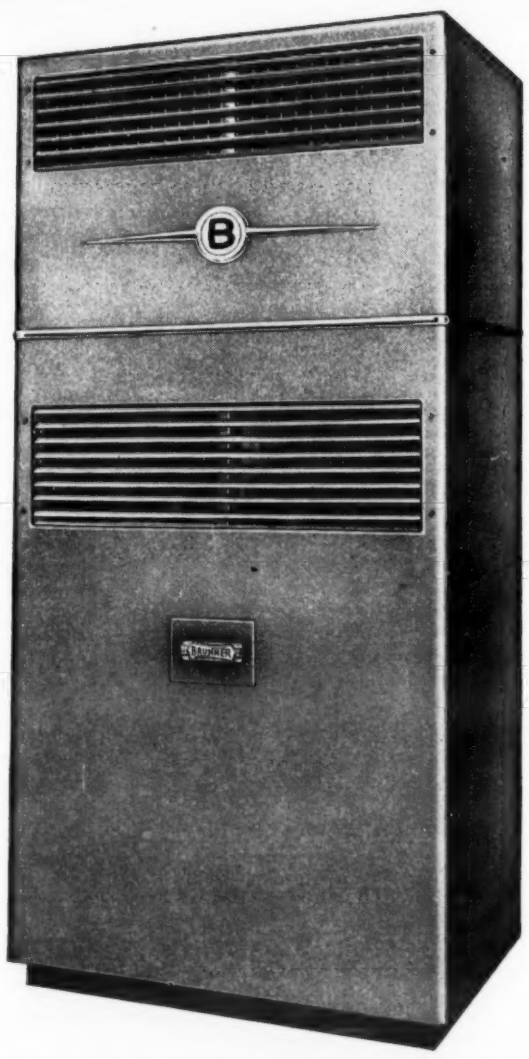
BRUNNER SINCE 1906 AIR CONDITIONING

Last year we increased our production schedules on Brunner Self Contained Air Conditioners three times—*demand was triple that for which we had planned.*

This more than anything else we can tell you, proves that in a highly competitive market, Brunner units offered more of what the buyers wanted.

When a prospect asks what you have to offer it's a mighty satisfying feeling to say "Brunner," then proceed to show him design features that even a layman can understand will deliver air conditioning values which more than justify the investment.

There is no reason why you should sell the hard way—sell BRUNNER. It costs nothing to listen so use the coupon to make a date.



BRUNNER MANUFACTURING COMPANY
Utica 1, New York, U. S. A.

Tear out and mail! I'm willing to do more business. Have your factory field representative stop in and bring me up-to-date on what Brunner has to offer me as a dealer. Send current catalogs in the meantime.

Name _____

Company _____

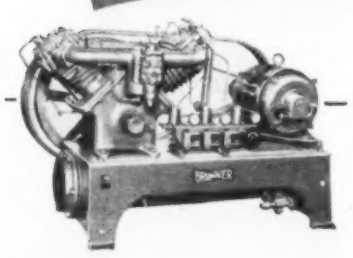
Address _____

City and State _____

BRUNNER SINCE 1906 AIR CONDITIONING

- Self Contained 3 HP. to 10 HP.
- Remote Type 3 HP. to 75 HP.

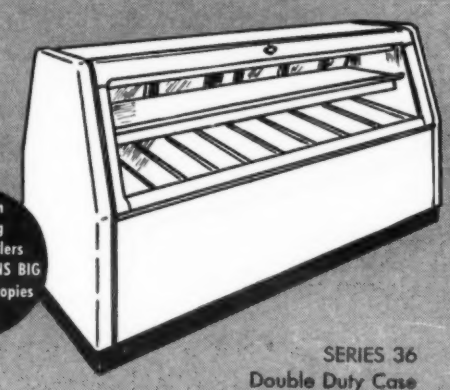
Completely Brunner built . . . backed by a fine reputation forty-five years old.



REFRIGERATION CONDENSING UNITS by BRUNNER SINCE 1906

AIR AND WATER COOLED MODELS—*a size and type for every purpose...* ¼ HP. TO 75 HP.

Serving America's Finest Food Stores!



There's an interesting story for dealers in "Bally MEANS BIG BUSINESS". Copies available

SERIES 36
Double Duty Case

...ONE OF 62 DIFFERENT BALLY MODELS and SIZES

Bally

REFRIGERATED DISPLAY CASES

Bally Case and Cooler Co., Bally, Pa.

"Here's the Start of a Happy Ending . . ."

"I KNOW IT'LL BE A HAPPY ENDING FOR THEM—AND ME! They'll find—as so many of my customers before them have found—that Kelvinator builds a freezer you can trust. It will give them just what they need most, especially in these times—*unfailing, ruggedly dependable protection of their valuable frozen food supply.*

"So it'll be a happy ending for *me*, too. For I'll have one more well-satisfied customer . . . and I'll be free from the complaints and service calls that can make life so miserable for a dealer."

There are good reasons for this.

First of all, built into these Freezers is Kelvinator's unique "know how" and long experience as pioneer maker of low temperature cabinets for the ice cream industry . . . and oldest maker of electric refrigerators for the home. That's why Kelvinator Freezers have freezing coils in *all 4* walls . . . and at the bottom of the fast-freezing section. That's why they're Chest-type design, to keep cold from "spilling out".

Built into Kelvinator Freezers also is one of the most efficient cold-makers known—a heavy-duty version of the famous Kelvinator Polar-sphere—rugged, plus-powered, faithful in performance as the day is long.

Built, too, into Kelvinator Freezers is outstanding quality—quality in design, in materials, in workmanship. And in the new 1951 Kelvinator Freezers, new user convenience has been added by such features as the handy Pastri-Rack, shown above, to keep pastry, cakes, etc. from crushing and to make contents easily accessible.

This insistence upon the highest standards of quality and performance adheres faithfully to the pledge of Kelvinator's Franchise. And it's true not only of Kelvinator Freezers—but *of every single product and part* that Kelvinator produces.

It is this, above all things, that makes Kelvinator first choice among so many buyers . . . another important reason why the Kelvinator Franchise is the most valuable in the appliance industry.

GET MORE . . . Get Kelvinator

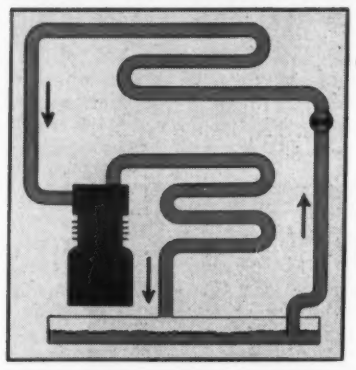
TUNE IN! CBS-TV NETWORK! Kelvinator *"Star of the Family"* show, starring Morton Downey. See your local paper for time and station.

THE MOST VALUABLE FRANCHISE IN THE APPLIANCE INDUSTRY

ELECTRIC REFRIGERATORS . . . RANGES . . . FREEZERS . . . WATER HEATERS . . . AIR DRIERS

KELVINATOR, DIVISION OF NASH-KELVINATOR CORPORATION, DETROIT 32, MICHIGAN

TRAVELS TO EVERY DROP OF MOISTURE



Thawzone circulates with the refrigerant to reach ALL the moisture. Gets to any moisture traps in expansion valve, receiver, etc.

By a patented method Thawzone actually destroys moisture so it can't come back. For any "Freon" or methyl chloride units. Phone your wholesaler now.

THAWZONE®

WANTED

CHIEF ENGINEER

Commercial Refrigeration

For well known West Coast Firm, take full charge of engineering department. Must know refrigeration systems, testing, cabinet design and production methods.

Please address your reply to P.O. Box 95, Huntington Park, Calif.

RACCA President Defines a 'Contractor'; Cites Pressing Need for Association Action

BUFFALO—How can you best define a refrigeration and air conditioning contractor?

The most simple definition, according to T. R. Reina, national president of the Refrigeration and Air Conditioning Contractors Association is to define a contractor as "one who is engaged in the installation or servicing of refrigeration and/or air conditioning equipment and who works for himself."

This latter point is the prime point of the definition, Reina declares, for so long as a man is not employed by anyone else he qualifies to be designated as a contractor.

Reina spoke before the closing session of the recent REMA-RSES Eastern Refrigeration and Air Conditioning Educational Conference here, and urged that contractors form local contractor associations, and also join RACCA, in order that the contractor might present a unified segment of the industry to the government, and to such groups with whom the contractors have mutual problems.

"There need be no conflict in the industry between the various groups," Reina said, "but each group should be as strong and representative as possible so that the particular group does not suffer by lack of recognition from Defense Mobilization and other government officials, and so that it does not get pushed around by other groups."

"In times like these particularly," said RACCA's president, "the individual should not ask 'What is the organization going to do for me?' because he should be thinking 'What can I do for the organization?'

"The contractor is the man who ultimately sells the industry's goods to the user, and he merits recognition for this important part in the distribution chain. But he has failed to achieve proper recognition because he hasn't organized his group, and he has many types of business problems that might be readily solved if his group was organized."

To form a local contractors group, Reina advised, don't start out by calling a big meeting. Because such meetings are generally poorly planned and organized, they often leave the individuals attending with a poor opinion of the plan.

A better plan for the contractor who wants to do something about setting up an organization, said the RACCA leader, is to call up *one* of his friends among the contractors in his area and talk it over with that one man. Then perhaps he can call another, while the first man to whom he has talked, if interested, can do likewise. Then when a good nucleus of prospective members have been approached in this manner, a meeting can be called and concrete steps taken towards the organization of an association.

Reina pointed out that there was need for both local and national associations since there were many problems that could be handled only on the national level, while many others could be solved best by the action of a local organization.

Food Groups' Brochure on Refrigeration's Roles--

(Concluded from Page 1, Column 4)

Manufacturers, Milk Industry Foundation, National Association of Frozen Food Packers, National Association of Ice Industries, National Association of Refrigerated Warehouses, and National Fisheries Institute.

Separate pages of the publication cover milk and milk products, meat, fish, frozen foods, cold storage warehouses, ice, and maintenance and service. Some of the points made under these headings are:

MILK AND MILK PRODUCTS: "Milk and milk products are the most important sources of nutrients in our diet. Milk, ice cream, butter, cheese, and other milk products are classified in the Basic Seven Group by the Federal Government's Interagency Council on Nutrition.

"With few exceptions (e.g., dried products, condensed and evaporated milk) milk and manufactured dairy products must have constant refrigeration until consumed.

"Milk-industry equipment requirements range from coolers, freezers, low-temperature storage tanks, refrigerated storage and hardening rooms, refrigerated trucks for delivery, and refrigerated 'point-of-sale' display cases, to the home refrigerator.

"This equipment is essential to insure healthful milk and milk products as they travel from the farm to the consumer's table. Any break in the continuity of the refrigerated protection for milk and its products means contamination and spoilage, waste and disease."

IMPORTANCE TO MEAT

MEAT: "Meat serves the nation. It is patriotic and good common sense to make the most of every pound. Refrigeration helps do the job.

"The quickest way to shut down a meat packing plant is to render its refrigerating facilities inoperative."

FISH: "At wholesale distribution points throughout the country, refrigerated storage warehouses play a vital part in the distribution of fish products. Without such facilities, uniform distribution of frozen fish products would be impossible."

FROZEN FOODS: "Refrigeration is the key factor—indeed, the basic essential— in every phase and function of the frozen food industry. There could be no frozen food industry without refrigeration.

"Currently involved in the distribution of frozen foods are an estimated 2,000 wholesalers, 500 food brokers, 200,000 retail stores, and thousands of frozen food locker plants, all of which are heavily dependent on refrigeration."

COLD STORAGE WAREHOUSES: "During World War II over 75% of all food consumed by the armed services passed through the refrigeration process. Today there are 750 public refrigerated warehouses, with the vast total of 413,600,000 cu. ft. of refrigerated storage space.

"These warehouses must have machinery, refrigerants, and spare parts. Their role as guardians of the nation's perishable food supply is second to none in importance. Refrigerating machinery is the basic requirement of America's cold storage facilities."

MAINTENANCE AND SERVICE: "Refrigeration equipment, vital to the operation of the production, processing, and transportation industries entrusted with the nation's food supply, requires constant and careful maintenance. This machinery must operate all day, every day.

"Refrigeration systems for food preservation total many millions of different types and sizes—from the large food processing and storage installations to the small merchandising display cases in retail stores.

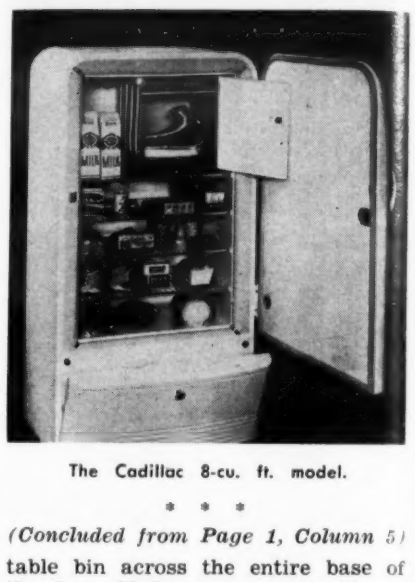
"Each refrigeration system comprises a skillfully-designed assembly of mechanical and electrical devices, compressors, motors, pumps, fans, valves, and similar components. To continue to operate efficiently in its important task, every piece of this machinery requires the careful attention of experienced maintenance and service personnel.

"Also essential is an adequate supply of replacement equipment, repair parts, chemical refrigerants, oil, and other maintenance materials and facilities."

Copies of the brochure can possibly be obtained by writing to one of the sponsoring associations. Among others, requests may be addressed to:

American Meat Institute, A. W. Gilliam, Washington representative, National Press Bldg., Washington, D. C.; International Association of Ice Cream Manufacturers, Robert C. Hibben, executive secretary, 110 Barr Bldg., Washington 6, D. C.; of the National Association of Refrigerated Warehouses, William Dalton, executive vice president, Tower Bldg., Washington 5, D. C.

Cadillac Refrigerator--



The Cadillac 8-cu. ft. model.

* * *

(Concluded from Page 1, Column 5)

table bin across the entire base of the box. Shelves are removable so that food containers of all sizes are easily accessible.

The refrigerator also uses a special door latch for easy practical operation, and the temperature control has nine positions.

This Cadillac box, measures 28 in. wide by 57 in. high by 25 in. deep. Net weight is 225 lbs. Available for immediate delivery, the 8-cu. ft. Cadillac home refrigerator lists for $259.95.

for all water cooling use *Filtrine* —sell more condensing units

"DO Rating" Orders are Vital . . .

All Federal Agencies . . . Air Force . . . Army . . . Navy . . . Marine Corps . . . know that Filtrine products meet government specifications.

COOLERS FOR MESS HALLS — CAFETERIAS

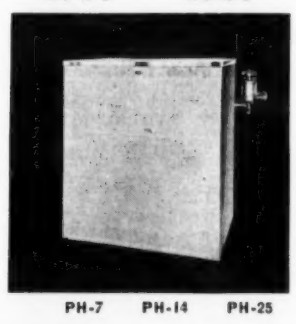
Sell your own condensing unit . . . with coolers backed by Filtrine's 40-year dependability. 1. Government and general acceptance for high efficiency—dependability—20-year life construction. 2. High capacity—super storage. 3. Handsome exterior (all stainless steel or Duco with stainless trim). 4. Equipped to suit with top and/or side shelves. 5. Bubblers, glass-fillers, front, back or all sides. 6. Can be "Taste-Master" equipped to banish chlorine and insure sparkling water.

MC-14-S MC-43-S MC-25-S MC-40-S

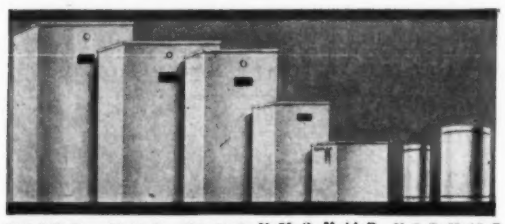
No. 4 "Taste-Master" Filter

COOLERS FOR X-RAY & PHOTOGRAPHY

Sell your own condensing unit . . . with these Filtrine coolers pre-approved by military and V.A. medical procurement offices, Signal Corps, Air Force, etc., for X-Ray darkroom and photo-lab installation. 1. Dependable water of correct temperature for film processing. 2. Large storage for heavy duty and emergency requirements. 3. High efficiency, economy operation—20-year life construction. 4. Floor mounted with stainless steel work-table top; also under-counter models. 5. Filters (extra) prevent scratched and pinholed negatives.



PH-7 PH-14 PH-25



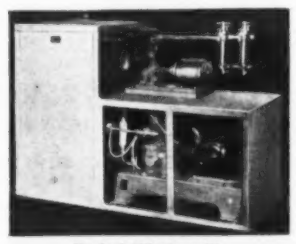
MH-300-R MH-150-R M-300-R M-150-R M-90-R M-75-R MA-40-R M-43-R M-40-R M-25-R M-14-R X-2-R M-7-R M-10-R M-20-R

REMOTE COOLERS FOR ALL USES

Sell your own condensing unit . . . with Filtrine coolers suitable for new and replacement installation everywhere: barracks, military depots, mills, schools, post offices. 1. Capacities 5-800 g.p.h.—storage 7-300 gallons. 2. High efficiency—20-year life-span. 3. Insulation—2" hydrolene-sealed corkboard. 4. Filters and Rectifiers/Dechlorinators available for all sizes.

PACKAGED CIRCULATING CHILLED WATER SYSTEMS

Sell your own condensing unit . . . with complete Filtrine systems for circulating drinking water in offices, hospitals, industrial plants . . . for processing water as low as 34°. 1. Completely packaged for streamlined engineering, quick installation. 2. Capacities 5 to 400 g.p.h.—Storage 5 to 150 gallons. 3. Equipped with heavy-duty pump. 4. Your condensing unit factory installed. 5. Insulation—2-inch hydrolene-sealed corkboard. 6. 20-year life construction. 7. Filter-Rectifier assembly (extra) to kill chlorine and keep water sparkling.



Typical "Packaged" Circulating Chilled Water System

Get our new *"How to Sell DO Jobs"* Write Dept. RF-1

Filtrine HIGH EFFICIENCY

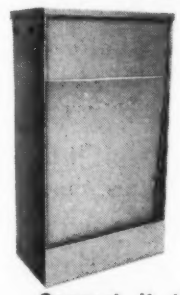
FILTRINE MANUFACTURING COMPANY · BROOKLYN 5 · N. Y.

"Water Coolers and Filters for 40 Years"

BRAND NEW

WILL-COOL OIL COOLER

For Machine Tools



Sold through refrigeration trade

Connect it to your own condensing unit.

MAKE MULTIPLE SALES IN YOUR OWN TERRITORY

Every Machine Shop and Factory Doing High Production Work a Prospect

Eliminates many production problems for your prospects. Specifically designed to control temperature of production machinery. Sizes to accommodate most machine tools.

Inquiries are invited

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EQUIPPED WITH WEB LOCK AND TIGHTENER

The EASY way to handle Stoves, Refrigerators and Freezers

ROLL-OR-KARI Dual Trucks

REGULAR MODELS with fixed wheels. DE LUXE MODEL with swivel wheels at one end. Patented Step-On-Lift Folding Handles. Capacity 1000 lbs. Shipping weight 45 lbs. Write, Dept. A,

THE ROLL-OR-KARI CO.

MANUFACTURERS

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Concentrated Liquid Ozone May Someday Purify Air, Water

WASHINGTON, D. C. — By successfully taming concentrated liquid ozone, scientists have developed a fuel that may someday send rockets to the moon, and which may also have uses in air and water purification.

Recent advances at Armour Research Foundation of Illinois Institute of Technology prove that concentrated liquid ozone, a beautiful dark blue substance, can be handled safely.

More than just a rocket fuel, ozone has other valuable military and commercial applications. It can be decomposed directly to oxygen for submarine patrols and high altitude flying and is an ideal agent for water purification, air purification, and bleaching.

Clark E. Thorp, chairman of the foundation's chemistry and chemical engineering department, reported progress in ozone technology at the National Convention of the Electrochemical Society in Washington, D. C.

During World War II, German scientists worked overtime on an ozone-propelled rocket designed to bombard New York City from launching platforms over 4,000 miles away. Luckily, the Germans were unable to discover the secret of handling liquid ozone without spontaneous detonation. Otherwise, residents of that area might have had front-row seats for a preview of guided missile warfare.

By replacing oxygen tanks with containers of liquid ozone, both planes and submarines would gain additional space with no sacrifice in oxygen volume.

Thorp explained that oxygen containing ozone gives off more usable oxygen per unit volume.

Used for water purification, ozone is a powerful chemical that literally "burns up" impurities without leaving an unpleasant taste. Large cities, such as Philadelphia and Paris, and smaller communities, including Whiting and Hobart, Ind., have used ozone water purification systems for years.

As a deodorizing agent, dilute solution of ozone in ventilating systems will overpower the smell of fish oils and rancid fats, it is said.

"Until two years ago, our studies were as dangerous as they were interesting," Thorp recalls.

"We used to have about one unscheduled explosion per day until we learned that ozone could be made to behave by removing certain thermal, mechanical, electrical, and chemical sensitizing influences."

Referred to by chemists as O_3, ozone molecules are composed of three oxygen atoms instead of the two atoms found in the air we breathe.

Originally, ozone research was sponsored by the foundation but since 1945, all work has been under the sponsorship of the Air Reduction Co., Inc., manufacturer of purified gases such as oxygen, nitrogen, helium, and neon.

Auto Dealer Must Cease Violating Reg. W Terms

CHICAGO — The United States District Court here has issued an injunction against Ogden Auto Mart, Inc., a dealer in used automobiles in Chicago, its president, Joel H. Harris, and its manager, Paul Harris, enjoining them from further violations of consumer credit Regulation W.

The defendant corporation was found to have failed to register as required by the regulation. Defendants also had violated the regulation by not obtaining the required down payment in a number of its sales, by not properly scheduling instalment payments, and by not maintaining adequate records.

Modern Appliance Distributors Gets Oklahoma Charter

SHAWNEE, Okla.—Modern Appliance Distributors, Inc., here, has obtained a charter from the Secretary of State. Authorized capital stock $15,000. Incorporators are R. J. Hissinger, E. C. Routh, and Thomas Walsh, all of Shawnee.

Koch Refrigerators, Inc. Is Firm's New Name

NORTH KANSAS CITY, Mo.—The name "Koch Refrigerators, Inc.," has been legally adopted as of April, 1951, as the new designation for Koch Refrigerators, a division of the Koch Butchers' Supply Co.

Millard Mayer, president, in announcing the change in name, states that the firm's entire facilities have been devoted to the manufacture of refrigerated cabinets and display cases since Jan. 1, 1950.

The shifting of sales volume away from butcher supplies to refrigeration, keeping pace with the development of modern refrigeration, has led the company to this logical change in policy and name.

Started in 1883 as a butchers' supply company to serve the first large scale packing houses built in Kansas City, the Koch company has always specialized in the design and manufacture of refrigerated fixtures, from the "natural ice coolers" of half a century ago to the modern, electrically refrigerated cabinets and merchandising cases widely used in modern meat and beverage merchandising.

Koch Refrigerators, Inc. has grown to the point where its activities extend over the entire United States and to practically every foreign country that permits imports, the company says.

Drayer-Hanson War Order Will Not Cut Production

LOS ANGELES — Acceptance by Drayer-Hanson, Inc. of an Air Force contract for $1,500,000 in drop tanks will not affect the company's production of its line of refrigeration and air conditioning products, company officials have stated.

The work on the Air Force contract will not involve production lines or facilities for the refrigeration and air conditioning equipment. All work on the drop tank contract will be carried on by new personnel and in a section of the plant which had formerly been sub-leased, it is pointed out.

Catch of the Season

Refrigerated Case Catches Fishermen After Fishermen Catch Prize Fish

YAKIMA, Wash. — At the height of the fishing season, crowds numbering as high as 100 people at a time can be seen around the main entrance of Yakima Hardware Co.

They gather around what Eddie Scheinost, sporting goods department manager, calls one of the most valuable advertising devices ever employed by the company.

It is a refrigerated display case installed by a local refrigeration contractor. All prize-winning fish entered in the firm's annual fishing contest are shown in the case, which is set outside the store during the fishing season.

Scheinost ordered the case so outstanding catches made by members of Yakima Hardware's Anglers' & Hunters' Club could be displayed over long periods. Three levels permit the display of as many as a dozen finny specimens at once.

The stainless steel case resembles those used in bakeries for whipped cream products. It is equipped with a ½-hp. condensing unit to maintain a temperature of 35° F. A Thermopane glass window guards against condensation.

Use of the case permits the store to put fish on display shortly after they are caught and allows the fisherman to delay mounting his catch until a convenient time, Scheinost pointed out.

NEW PRODUCTS?

Turn to "What's New" Page for useful information on new products. Use Key No. for fastest service.

They're Serving Better Refreshments

Andes Candies
Chicago, Illinois

Where You Find the Trademark

Everfrost

"America's Choice in Fountains"
for the
Smallest To The Largest Installation

Everfrost
A Product Of
ANDERSON & WAGNER, INC.
Los Angeles, California

INSIDE DOPE

by GEORGE F. TAUBENECK

(Concluded from Page 1, Column 1)

he was tolerated by the Detroit Tigers.

One afternoon when he was particularly sloppy afield he was withdrawn from the game and replaced by young Vic Wertz. As luck would have it, Wertz succeeded no better than his predecessor. The substitute overran two fly balls and muffed another. This turn of events was too much for even the long-suffering Steve O'Neill, who was then manager of the Tigers.

"What in tunket is the matter with you, Wertz?" O'Neill harrumphed. "Here I give you a chance, and. . . ."

"Honest, Mr. O'Neill," perspired the erstwhile benchwarmer, "that Wakefield has spoiled left field for anyone."

According to Leo

When Leo Macdonnell, *Detroit Times* sports reporter and columnist, was a cub reporter he interviewed a famous baseball player of that era in the visiting team's dugout at Navin Field (now Briggs Stadium).

Proud of his technical knowledge of the game, Leo interrogated The Great Slugger:

"Do you snap your wrists before your bat meets the ball?"

The Great Slugger spat a quid of tobacco at the bat-boy unerringly, while he pondered this learned question momentarily.

"Kid," he replied, "honest, I ain't got the slightest consumption."

Many years later Leo became a promoter of sports events "for sweet charity's sake."

One of his successful promotions was a baseball league composed of teams manned by juvenile delinquents. It worked out mighty well. Few of the refugees from Juvenile Court failed to report on time to Parole or Truant Officers, because they wanted to play in the next game.

At the close of the season members of every team in this league were invited to a banquet. Honored guests included almost the entire roster of the World Champion New York Yankees, who were then in town for a last series with the Detroit Tigers.

With considerable pride Leo introduced each of these celebrities to the worshipful boys. When he introduced The Great Slugger, the latter insisted on making a speech.

Leo was aghast, knowing full well that Ruth's histrionic efforts were likely to be anything but elevating and moral. So he pawed at Old Slug's shoulder frantically. The latter brushed him off and spoke:

"Kids, this here baseball game is just like life. Yer gotter fight every inch of the way. Why only this afternoon a lousy, two-bit umpire called a third strike on me which wuz a mile wide of the plate. I turned to this jerk of an umpire an' I sez to him. . . ."

At this point Leo hid his head in his hands and shuddered. So did Father O'Flannery, and the Mayor, and the Probation Officer.

The Great Slugger gulped a glass of water and continued:

"Dincha think that was a mite on the outside, sir?"

Several hearts resumed their beating. And Ol' Slug wound up:

"Thass what I gotta tell you kids. Be like me and you'll never be yer brother's keeper."

More 'Babe' Ruth Stories

Manager Miller Huggins had so many troubles with "the Babe" that he almost lost his mind.

What could you do with a man who broke all the training rules, demoralized club discipline, didn't even know his manager's name—and yet won game after game with his booming hits?

Huggins couldn't be a Manager with him, yet he'd be a flop without him. Result: Huggins fumed about Ruth off-stage, but never to his face.

There was one exception.

In a bandbox ballpark Ruth slashed a screaming line drive over the centerfielder's head. It didn't quite clear the barrier, but it bounced back so far that it should have been an easy triple. Huggins was coaching at third base, and frantically he windmilled the puffing Ruth to come on over. "The Babe" did, standing up, only to be tossed out by a beautiful throw.

"Why didn't you slide? You couldda beaten that peg," cried Huggins.

"Me? Slide?" protested Ruth. "I'd 've ruined the seegars in my hip pocket."

Shortly afterward Miller Huggins resigned—and survived to enjoy a relatively happy and comfortable annuity.

Nonchalant was the word for Ruth. Had he really tried *all* the while, had he been as conscientious as Hank Greenberg, for instance, it's conceivable that he could have hit 100 homers in a year.

And then again, maybe not. Could be that this devil-may-care carelessness was the secret of his success.

With the White Sox the Yanks were deadlocked in an extra-inning mound duel. The Babe had been listless all day; but in the fourteenth inning he noted that the club's traveling secretary was moaning and holding his head.

"Don't you feel good?" Ruth asked solicitiously.

"I should say not. We have just 50 minutes to catch the only train to Philadelphia, and this game looks like it'll go on 'til sunset."

"Whyncha tell me that before?" rumbled Ruth, selecting a 46-oz. bludgeon. By great good fortune it was his turn at bat. He knocked in three runs, iced the game, and the boys caught the train.

In his heyday Ruth's roommates seldom saw him. Either he was out all night, or he engaged a 100-dollar-a-day suite at his own expense to entertain friends royally. As one assigned traveling companion put it:

"I'm sharing a double room with a suitcase."

With the Red Sox, however, he traveled in orthodox fashion. He didn't know much and he hadn't learned too much. His first "roomie" was appalled when he saw G.H.R. vigorously scrubbing his molars with the former's toothbrush.

"Heavens, fellow, that isn't sanitary!" exclaimed the roommate.

"Ah-h-h, don't think nothin' of it," expectorated Ruth. "I ain't pertickalar."

Miracle man was Fred Haney when he piloted the St. Louis Browns to their only championship within the memory of living mortals. Few fans know that he was also a pretty fair country ballplayer in the Ruthian era.

Called up to the majors late in September, he propelled a home run against the Yanks in his first appearance. He couldn't resist the urge to pass the Yankee dugout and heckle Ruth.

"Not bad, eh, Babe?" he mischievoused. "You're 40 ahead of me, but watch my smoke."

In the bottom half of the inning Ruth poled out one of the longest of his career. Fred was perched on third base as the Babe huffed and puffed around the sacks. Pausing to wipe his waterfalling brow, Ruth grinned:

"How do we stand now, pallie?"

The Other 'Babe'

Had "Babe" Herman performed on any other club but the Daffy Dodgers he wouldn't be remembered as the premier Wrong-Way Woofler.

Loads of good hitters were awkward on defense; Zeke Bonura, Dale Alexander, and Dick Wakefield come to mind, among others.

And Smead Jolley, who wound up in Boston.

Fenway Park's left field was banked upward then. Quite a hazard to any outfielder. S. J. was no Tris Speaker.

Bases were loaded with none out when Jolley ran up the embankment to catch a long fly—his first chance in Boston. He whirled around to throw home—and somersaulted awkwardly. Three runners crossed the platter. Raged his manager:

"Three mornings we spend teaching you to run up that little hill in left field, and still you can't figure it out."

Serened Smead:

"Mr. Collins, we didn't practice down-hill strategy."

That year when Herman swatted a lusty .393 (including 35 home runs) Heinie Manush was passed purposely to fill the bases in one game. Manush was close to the top of the league's batting averages, but Herman was sore. Savagely he swacked the first pitch out of the park.

"Nerve of some people's children," he muttered, back on the bench. "Passing a lousy .350 man to get at me!"

Batting Fifth

Among the mildest and most cooperative of baseball players was "Larruping Lou" Gehrig. Almost never did he argue with anyone. There was one winter, though, when the Yankee management sent him a contract which he thought unfair. After all, he said to himself a hundred times, hadn't he beaten the Mighty Ruth for the American League runs-batted-in championship?

Pushed by friends and relatives, Lou bearded down Jacob Ruppert in the latter's sumptuous suite of offices. Ruppert appeared to be delighted at this visit, and took Gehrig on a tour of the suite. Pointing to a framed photograph, Ruppert beamed:

"Dis iss mine brewery. Wort' $10,000,000. And over here iss mine office building. Wouldn't sell for $5,000,000. Ach, yes, and mine Yankee Stadium. Dey say it's wort' . . ." and so on around the suite.

Lou tugged at the old man's sleeve.

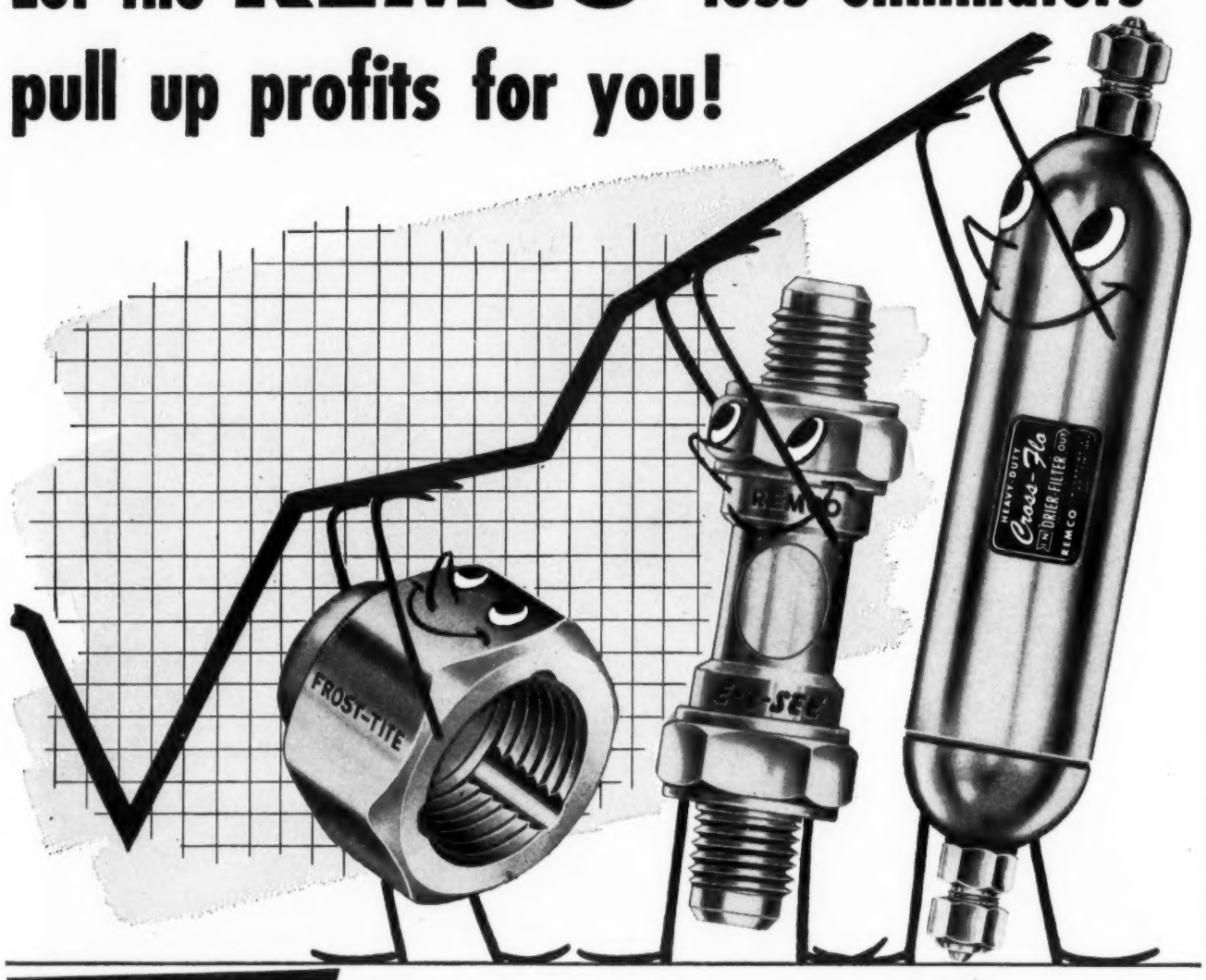
"Vot iss?"

"Mr. Ruppert, I came here to talk business," he blurted. "That contract you sent me. It isn't enough. I had a good year. I want $10,000 more."

The magnate panted. His color rose. His eyeballs bulged and his eyebrows rose.

"Vot you think I am? A millionaire?"

Let the REMCO "loss eliminators" pull up profits for you!



FROST-TITE eliminates losses from loosened and cracked flare nuts —

In Frost-Tite flare nuts, forged frost-relief slots provide relief for expanding ice within the nut, and thus no force is created to cause loosening, splitting, or cracking. Cost no more than ordinary flare nuts—are ideal for use anywhere in the system.

E-Z-SEE eliminates losses from leaking liquid indicators —

With E-Z-See, you are assured of the following definite advantages: (1) E-Z to see thru — both sides of the body are open to let in light (2) Positively leakproof — can't leak because springs automatically maintain just the right force to form a positive seal around the glass (3) Perfectly Safe—glass is protected for safety at pressures up to 500 psi.

Cross-Flo eliminates losses from clogged driers and expansion valve freeze-ups —

In Remco's new heavy-duty Cross-flo Drier-Filters, you get the highest-possible efficiency even at liquid temperatures up to 150°. You can now count on prevention of refrigerant control freeze-ups even in the lowest temperature installations.

— Send for Literature and Prices —

Be sure to specify REMCO "Standard-Duty" Driers as the ideal low-cost quality driers for field applications and original equipment. Available with Molded DuCal Drierite or Silica Gel.

CARRIED IN STOCK BY LEADING WHOLESALERS EVERYWHERE

West Coast warehouse stock at: 2103 So. San Pedro, Los Angeles, Calif.
EXPORT DEPARTMENT: Melchior, Armstrong, Dessau—Ridgefield, N. J.

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* WALL WIRE PRODUCTS COMPANY *

A FOREMOST NAME IN THE MANUFACTURE OF DIVERSIFIED WIRE PRODUCTS OF SUPERIOR QUALITY

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STANDARD AND LIGHT WEIGHT SHELVES OF ELECTRO-POLISHED SOLID STAINLESS STEEL

*

REFRIGERATOR SHELVES WITH CHROME PLATE, ZINC PLATE, PRO SEAL, TIN, OR PORCELIZED FINISH

*

WIRE GRILLES · DISPLAY FIXTURES · GUARDS · BASKETS OF ALL TYPES FOR ALL PURPOSES STEEL STAMPINGS · MISCELLANEOUS FORMED AND WELDED WIRE ASSEMBLIES ARC WELDED ASSEMBLIES.

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PLYMOUTH, MICHIGAN

EVAPORATIVE CONDENSERS

by KRAMER

- Time Tested
- No Rusting
- Trouble-Free Operation

WRITE FOR BULLETIN R-162

2 TO 10 TON CAPACITY

KRAMER TRENTON CO. Trenton 5, N. J.

Army Official Stresses Need for Standardization of Military Refrigeration Equipment; Industry Cooperation Sought

(Concluded from Page 1)

...itting air conditioning and the ...ntral-station type of fixed ware-h...ses.

The Quartermaster Corps then h... interest in two kinds of equip-m...t; first, the so-called commercial t... of equipment which is used in t... Zone of Interior and second, mili-t... equipment, which is used in the T...atres of Operation," he stated.

When I spoke of commercial e...ipment I was referring to the fo...owing: water coolers for drinking w...er and bakery chilled water; ice cl...sts; ice cube makers; ice chippers; d...estic refrigerators from two to 20... u. ft.; commercial reach-ins from 20...o 85 cu. ft., commercial display eq...pment; milk coolers; and pre-fa...icated walk-in boxes from 165 to 4,0... cu. ft.

Only Minor Changes Needed

"The equipment that I have just mentioned is that readily obtainable from commercial suppliers of the equipment. In general, we, in our specifications, require only minor modifications to existing models of commercial equipment and specify only our minimum requirements.

"Weight, interchangeability, etc., while important, are not matters of extreme importance. We standardize only along broad performance lines. Spare parts for this type of equipment are generally readily and quickly obtainable and in a pinch, service can be rendered to the defective pieces of equipment by manufacturer's representatives when trained Army service personnel are not available.

"The problems of military type equipment are not so simple. When I speak of military equipment, I am thinking of the following:

Military Equipment Listed

"Portable gasoline and electric refrigerators of 25, 70, and 150 cu. ft. capacity; prefabricated walk-in field boxes from 600 to 3,200 cu. ft., with gasoline and electric-powered units; prefabricated 1,200-cu. ft. boxes for refrigerated barges; ice cream plant, portable; and 7½-ton refrigerated semi-trailer.

"All of the above are designed for use in the field under combat conditions, if necessary. They must be, therefore, designed to stand the tremendous beating which repeated shipment, dismantling, and re-erection involves.

"They must be simple to erect and simple to operate, and they must be carefully designed and constructed so they will operate, and continue to operate, under adverse and sometimes almost impossible field conditions.

"Such equipment must also be rugged to minimize the problems of parts replacement. The spare parts problem is one of the greatest in any logistic consideration.

"Equipment must be lightweight and small of cubage because of possible or probable transportation by air. A rough rule of thumb that we use is that one pound of freight requires about four pounds of plane. You see, therefore, why the Armed Services attach the importance that they do to

'No Drugstores In Zilchville'

"In the past war, we spent many millions of dollars for refrigeration equipment. At the same time we bought many more millions of dollars worth of spare parts to service this equipment. It must be remembered that 'there are no drugstores in Zilchville' when Zilchville is thousands of miles from the United States.

"In the recent unpleasantness, men of my ship machined and lapped replacement seals as well as made V-belts out of manila grommets. This is why we stress interchangeability; this is why we stress standardization; this is why we stress simplicity.

"At the end of World War II, the Quartermaster Corps bought equipment involving 10 compressor sizes. Today, in our military equipment, we have three sizes for the following capacities: ⅓, ½, and 1-ton. These capacities are, of course, approximate only.

"We still, however, have to carry spare parts for equipment of these three sizes, made by a number of manufacturers. I have been in this job, as you have heard, approximately four and one half years. Before I came into the job, I had been impressed strongly with the need for standardization, particularly by my wartime experience, with the tremendous monetary saving that could be effected by standardization, and with the sound basic common sense of interchangeability.

"For the past four years, I have talked at length to individual manufacturers, I have talked to the assembled ACRMA, as well as the REMA, and I am sorry to say that results are almost non-existent. I wish you gentlemen would realize that it is *your* money, as well as *my* money that is being spent on spare parts; it is *your* money as well as *my* money that could be more efficiently spent if we had greater interchangeability and standardization. Remember that *your* taxes and *my* taxes pay the operating expenses of the Armed Forces.

Joint Compressor Design

"When I first came on the job we proposed the production of a military model of a refrigerator compressor which would be arrived at as a joint design of the refrigeration industry, with the tooling to be paid for by the Government, but because of a lack of money on our part and certain other reasons, this has not as yet been found practicable.

"If only one or two of an item are bought, it makes little difference whether the parts of one of these items fits the other excepting, of course, if you are thousands of miles from replacement parts and the item is essential for operation. But the Army buys by the thousands and the saving resulting from even one part that is interchangeable between different makes of the same kind of item can end up in important money.

"Consider the condition that obtained in the electric industry some years back. A 5-hp. motor from different manufacturers bore no resemblance in any of its more essential details to that of any other manufacturer.

"The electric industry recognized the trouble and expense that this was causing to the users and the potential market for electric-motor-drive and voluntarily set up certain industry standards. Today, mounting-feet dimensions, the shaft center line, and the shaft diameter, among other features, are standard.

"It should be recognized that this has not eliminated the sales points of methods of manufacture, insulation and the kind and color of paint, etc., but it does simplify utilization of motors.

Variation Makes Field Maintenance Difficult

"If we buy 10,000 B.t.u. compressors from the various manufacturers of compressors, it would be a safe bet that no two of these compressors would be alike in any essential details. When you consider the difficulties of field maintenance—the quantities, the many makes and models, the many parts— imagine what we have to contend with in trying to keep equipment running in order that fighting men may eat to live and fight.

"While we recognize the tremendous cost of tooling for a military model, there are degrees of standardization which would be of enormous value to the Armed Forces and which could be accomplished by industry for a relatively small expenditure. In other words, if we can't have the whole cake, we'll be satisfied with a slice.

Some Suggestions

"So I'm about to discuss standardization of parts of a design and of components. Consider these, if you will: Lateral and longitudinal dimensions of the mounting feet can easily be the same for a given size of compressor so that we could use a common foundation for all compressors; the center line of the shaft above the base to make shifting makes of compressors more easily done; the same diameter of shaft and, if possible, a standard seal arrangement so that we could use the same seal on all makes of compressors; suction and discharge piping of standard size and in a standard location; even the same size and threads in your studs and bolts.

"These are offered only as examples of changes in construction tending towards standardization which could be effected at reasonable cost, and with minimum dis-arrangement to present industry tooling. Further, they are not utilized by the industry in selling, no sales advantage will be lost.

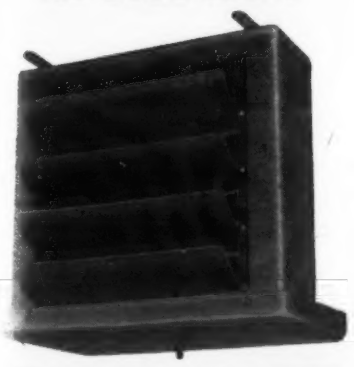
What the Army Has Done So Far

"We are standardizing components insofar as we can but we have only scratched the surface, and I hope that in the days to come we will be able to report even further progress.

"For example, we have standardized on a nominal 4 by 8 panel for the major portion of our boxes; we have standardized on the opening in the panel for the refrigerated plug; we are trying to standardize mounting bolt spacing in the condenser and evaporator coils; we are trying to standardize on our field assembly methods as to gasket, panel construction, and panel fasteners.

"It must be remembered that the question of standardization is definitely a two-way street; it must be looked upon as a give-and-take proposition, not only on the part of the Government but also on the part of industry. The cost of war is increasing by leaps and bounds, with no end in sight. If we are to keep down the cost of war, which means our own individual taxes, we must, all of us, seek for ways to reduce this cost. One of the surest of these is standardization."

LOOK to LARKIN
for Good Looks



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...or clean, smart lines, satin-smooth ...nish, color and overall good ...ooks—Larkin leads. Behind this ...eauty is the quality and perform-...nce that keeps Larkin ahead.

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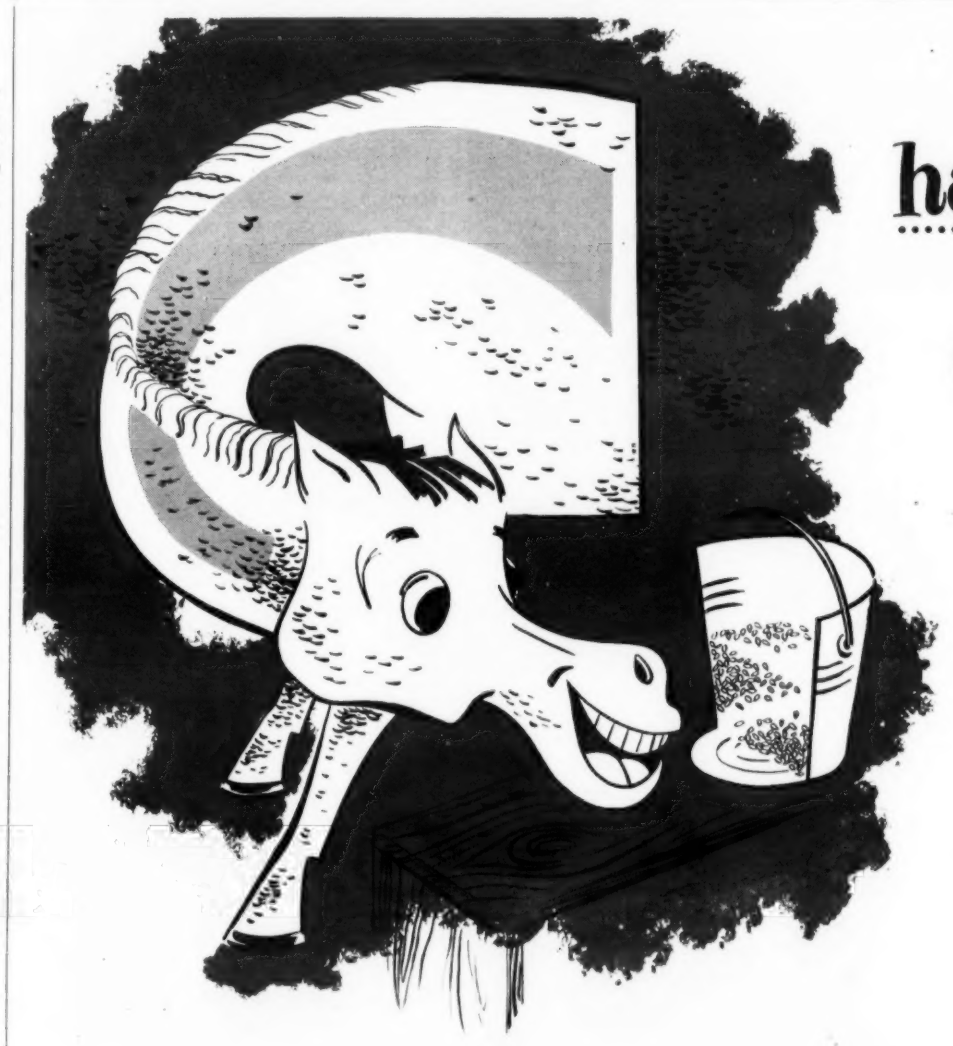

half-a-horse SAVES

to increase profit margins

It takes less power to run the ½ HP unit in a Sherer 6 ft. refrigerated display case, than it takes to run the usual ¾ to 1½ HP required in most cases of this size. This is just one of the many savings made by the new and exclusive Sherer ATOMIZED AIR—DIRECTIONAL FLOW refrigeration principle. This proved feature also permits the recirculation of chilled air, instead of continually drawing-in a new supply of warm air. This reduces running time as much as 15% and means substantial savings for you in electric power bills.

In addition, the gentle flow of ATOMIZED, conditioned air in Sherer cases, keeps displays looking their best always—keeps merchandise more atttractive to create the extra impulse sales that build up your volume. The savings in power, plus the increased **sales, simply add-up to greater** profits with Sherer.

MODEL 2410CS

Write today for complete information on the full line of sales stimulating Sherer Refrigerated Display Cases.

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Chilled and Ready To Serve

Increasing Popularity of Domestic Wines Opens New Field for Selling Cooling Equipment to Liquor Stores

DENVER—With the popularity of domestic wines increasing steadily, commercial refrigeration dealers will find liquor stores a growing market for the sale of wine-chilling equipment.

That's the opinion of J. Wesley Young, president of the Denver company of the same name. Young has been a General Electric dealer and service expert for more than 15 years.

American wines now are among the best in the world, and the industry as a whole has seen an increase of more than 100% in a few years' time. Retail dealers are going to have to supply chilled wines, Young points out, and consequently, many liquor stores will be in the market for specialized refrigeration.

One such system was installed by Young in Ted's Liquor Store here. As a result, the store's sales of chilled wine and beer increased more than 50% in a single year.

The store is located near an exclusive residential district—an excellent spot for selling chilled wine. But because of the small size of the building, the owner doubted that installation of a large refrigerator would be practical.

After surveying the place, Young pointed out to the proprietor that a storage cooler could be built in the back, opening into the central partition, without losing an inch of sales space or crowding the store in any way. Convinced, the owner agreed to buy the $600 installation.

Built of heavy oak with cork insulation, the refrigerator measures 6 ft. 7 in. by 8 ft. and accommodates around 75 cases of beer and wines. It is equipped with four glass service doors through which customers can see orderly rows of beverages on display under a fluorescent tube.

Special metal shelves were provided to permit stocking of split cases and half cases. Cases are stacked in the center, allowing cold air from a General Electric cold-diffuser mounted on the ceiling to circulate freely around them. Coils are self-defrosting.

Temperature in the cooler is maintained at 36°—proper for sherry, claret, white, port, and white port wines. The Wine Institute recommends that these wines be chilled.

The refrigerator, which has enabled the liquor store to handle a large amount of banquet and entertainment business, created a dozen or more similar orders for the refrigeration firm.

Young continues to make sales of this kind despite the war. He feels that there will always be similar markets open to the aggressive refrigeration firm willing to devote enough time to finding them.

For years, Young has been ferreting out unusual markets for refrigeration and making the installations pay for the owners. He has acquired a reputation here for the variety of his refrigeration designs. Special Young installations range from a blood bank to a large cooler for the Army Air Force in which aviation oils are tested.

Young has developed most of his sales by spending at least two days a week looking into the operation of retail businesses and uncovering specific refrigeration possibilities to help them.

28% of Wolverine Tube Production for Defense

DETROIT — Recent subcontracts for ammunition components received from seven companies have brought production for defense orders to 28% of the output of the Wolverine Tube Division of Calumet and Hecla Consolidated Copper Co., H. Y. Bassett, vice president and general manager, announced recently.

Prime contracts for components, previously received, to be supplied to six government arsenals, make up a substantial part of the total. Research development and pilot projects for a dozen different government agencies concerned with defense are also included.

"If government directives, contracts, and subcontracts for defense work continue to increase at the present rate," Bassett said, "we should be able to continue production at satisfactory levels in spite of restrictions on civilian production."

Work on contracts for government defense agencies on a small scale which were continued throughout the 1946-50 period at Wolverine Tube Div. plants helped in making the change-over to defense work.

"Wolverine technicians pioneered the extrusion of uranium for the Manhattan Engineers' Project and the standardization of rotating band blanks for the Army and Navy during World War II. The technical skills and know-how developed during the execution of these tasks have been further increased through our development and pilot project work during the pre-Korea years."

NARDA To Hold Mid-Year Meeting In Chicago June 25

CHICAGO—The mid-year convention of the National Appliance and Radio Dealers Association will be held June 25 at the Stevens hotel here, it was announced by Mort Farr, president.

The one-day meeting, to cover sessions on sales, service, and management, was approved at a recent meeting of the executive board.

Belasco Organizes as International Distributor For Cooling Equipment

NEW YORK CITY—Formation of S. Belasco & Son, Inc. here as an international distributor of refrigeration and air conditioning equipment and appliances has been announced by S. Belasco, president.

Other officers of the new firm, located at 191 Chrystie St., are Martin Belasco, vice president, and Fred Belasco, secretary-treasurer.

For the past 15 years, S. Belasco was associated with Interstate Appliance Co. here. During that time, he handled wholesale, retail, and export sales of commercial refrigerators and air conditioners.

Several years ago, Belasco authored for AIR CONDITIONING & REFRIGERATION NEWS a series of articles on reconditioning used domestic refrigerators and selling them in the Latin-American markets. In addition, he collaborated with publishers of various refrigerator trade-in manuals, furnishing materials, specifications, and photographs from his personal files.

Belasco is a charter member of the Refrigeration Service Engineers Society and has been a member of the American Society of Refrigerating Engineers for many years.

New Synthetic Rubber Will Withstand Wide Temperature Variations

WASHINGTON, D. C.—A new synthetic rubber that is said to be superior to natural and other synthetics in its ability to maintain its rubbery qualities in extremes of heat and cold, contact with oil or water, and aging has been announced by the U. S. Department of Agriculture.

The new rubber, called lactoprene BN, was developed by scientists in the Philadelphia research laboratory of the department. It combines butyl acrylate and acrylonitrile and is made from either petroleum or the lactic acid of milk or corn sugar.

The department recommends its use in such items as refrigerant seals, oil seals in automobile transmissions, gaskets, and linings for fuel tanks.

Lactoprene BN is reported to keep its desirable physical properties at temperatures ranging from 300° F. down to -30° F. Its composition can be changed by varying the proportions of its chemical ingredients, the department said. In this way, its swelling in oil can be modified without affecting its resistance to heat.

Interested firms can obtain samples for testing from the Philadelphia laboratory of the U. S. Department of Agriculture.

JUST ASK US!
Turn to "What's New" page for useful information.

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YOUR CUSTOMER'S OWN RECORDS WILL CONVINCE HIM!

The *Crystal Tips* brochure, "How to Subtract up to 85% from Your Present Costs for Ice" is a powerful sales tool. It compares your customer's present ice costs, based on his own records, with *Crystal Tips* profits. The figures right there, in black and white, will show him the *Crystal Tips* Ice Maker pays for itself in a surprisingly short time.

And cutting costs is just one of the advantages of the *Crystal Tips* Ice Maker. Add to this the convenience—point-of-use storage, no clean-up chores, constant full supply—and the fact that slow melting *Crystal Tips* cool drinks faster and keep them fresh longer.

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A Subsidiary of McQuay, Inc., Manufacturers of Heat Transfer Equipment Since 1923

Serving America's Finest Food Stores!

There's an interesting story for dealers in "Bally MEANS BIG BUSINESS". Copies available
OPEN STYLE
"Extra Wide Shelf" Case

...ONE OF 62 DIFFERENT BALLY MODELS and SIZES

Bally
REFRIGERATED DISPLAY CASES
Bally Case and Cooler Co., Bally, Pa.

JUST by staggering appliances along the wall in step-backs, Long-Bell Co., Enid, Okla., upped its sales. Customers found it difficult to concentrate attention on a single appliance when militant line of refrigerators, ranges, and washing machines faced them.

Sales-Getting Arrangement

Saw-Tooth Wall Display Focuses Customer's Attention on One Appliance at a Time

ENID, Okla.—Merely the method by which major appliances are displayed can have a lot to do with their potential sales, according to Rube Ingold, of the Long-Bell Co., major appliance retailer here.

About two years ago, Ingold decided that the usual militant row of refrigerators, ranges, and washing machines was actually hampering sales because of the fact that it was difficult for the prospect to focus her attention on a single model at a time. Store space, however, did not permit separating appliances widely, with the result that it required some architectural revision in order to gain "individual attention" to every appliance.

The result of much experimentation was the "staggered" display shown herewith, whereby a series of small platforms, turned at an angle of approximately 35° along the wall of the department, gives the optical illusions of a series of step-backs. Actually, the row of platforms resembles the edge of a saw, all occupying the same amount of space, with the major appliance shown turned at a sharp slant, toward the center of the store.

"As a result, the prospect who is looking at any particular appliance cannot easily see those on either side," Ingold said, "since the one to the left is actually behind her, while the one to the right is recessed back far enough that it is not easily seen, due to the slant separation. As a result, our salesmen find that the customer's attention remains concentrated on the refrigerator or other appliance being shown her, with less tendency to wander off and look at 'something else' in the middle of the sale."

Westinghouse Has Film On Automatic Defrosting

MANSFIELD, Ohio—A new sales training film that describes various types of automatic defrosting for household refrigerators for salesmen has been produced by the Westinghouse Electric Appliance Div., it was reported by Ray Miller, refrigeration department sales training supervisor.

The new 24-minute film called, "What's the Answer?" not only describes the Westinghouse "Frost-Free" automatic defrosting system but all other systems now on the market. The film was made by Cinecraft of Cleveland and will be used in a national sales training program scheduled to start this month, Miller said.

Milton Kalischer, engineering department manager at the Springfield, Mass. plant, and O. H. Yoxsimer, manager of cabinet engineering at Mansfield, are the stars of the film.

3 Hotpoint Dealers Offer Disposalls At $149.95 After City Passes Ordinance

CHICAGO—Approximately 500 Hotpoint food waste "Disposalls" have been shipped to South Euclid, Ohio dealers and are being installed in new homes as part of a city move to eliminate outmoded methods of garbage collection, Ralph C. Cameron, staff assistant to the general sales manager, Hotpoint, Inc., announced.

Sales are being handled through three Hotpoint dealers in Euclid following passage of a city ordinance requiring new homes to be equipped with electric food waste disposal units or gas incinerators.

Hotpoint and its Cleveland distributor, Graybar Electric Co., interested the city council in the plan on the basis of health advantages for the citizens and a material saving to the city in cost of the collection of garbage.

Since the ordinance was passed, the appliance manufacturer, its distributors, and local dealers have been conducting an intensive city-wide promotion to educate home owners on the benefits of this appliance. Bon-Al Furniture Co., Linde Plumbing Co., and Rhodes Plumbing Co. participated in the continuing campaign known as "South Euclid Freedom Month."

Disposalls were promoted at $149.95 installed, and were backed by city-wide advertising and displays in prominent locations. A stationary display with a background was placed in the two local banks. Operating displays also appeared in theater lobbies, and in the library where literature on Disposalls was available.

Arrangements were made with a good store chain to display and operate a Disposall in the vegetable department where carrot and beet tops and damaged fruits and vegetables must be collected daily. Other displays and demonstrations were available for the home economics departments of the schools, adult civic groups, filling stations, and drug chains.

A miniature display was developed for stores using pencil sharpeners shaped like a Disposall. Advertising is being run in the local newspaper stressing the installed price, and "modern living in a modern community."

Car cards, billboards, and radio spots also were part of the promotion.

A direct-mail campaign was conducted for four weeks, with novel "infamous people" cartoons showing rats, mice, and insects attracted by garbage cans. A jalopy loaded with garbage cans toured the streets and urged citizens to "trade in your old junker on a new modern Hotpoint Disposall."

Cameron said the South Euclid move illustrates the trend that is taking place across the nation to provide whole communities with sanitary and low cost garbage disposal facilities.

12 Appliance Retailers Head NARDA Committees

CHICAGO — Twelve appliance retailers from all parts of the country have been appointed chairmen of major committees of the National Appliance and Radio Dealers Association, stated Mort Farr, president.

The committee chairmen include:

H. B. Price, Jr., president of Price's, Inc., Norfolk, Va. and NARDA vice president—policy committee.

Julius Kovach, Paramount Good Housekeeping Shop, Kenosha, Wis.—NARDA Trade-In committee.

Joseph Fleischaker, Electric Appliance Store, Louisville, Ky.—awards committee.

James Lee Pryor, Wilmington, Del., and Herb Names, Herb Names, Inc., Denver, co-chairmen—reception committee.

Richard Galvin, Television Co. of Maryland, Baltimore—publicity committee.

C. M. Davidson, Davidson & Co., Miami, Fla.—resolutions committee.

F. E. Morrison, Rockford Standard Furniture Co., Rockford, Ill.—entertainment committee.

Clarence Bode, J. Kornely Hardware Co., Milwaukee—national advisory committee on national, state, and local unity.

George Hiebing, Davenport, Iowa—national advisory committee on standardization policies.

Ted Simmons, Hartford, Conn.—national advisory committee on the certified television installation and service program.

E. O. Kuehn, General Radio and Supply Co., Belleville, Ill., NARDA representative to the National Farm Electrification Conference.

Advertisement Spotlights Modern Kitchen as 'Most Used Room In the House'

PHOENIX, Ariz.—A 42-in. institutional-type advertisement was run in morning and evening newspapers to initiate an intensive modern-kitchen campaign sponsored by the Appliance Merchandisers Association.

The advertisement spotlighted the kitchen as the most used room in the home. It read:

"Modern living begins with a modern kitchen. You spend more hours in the kitchen than in any other room in your home . . . and a Modern Kitchen makes those hours pleasant as well as productive! Building or remodeling . . . plan your Kitchen for comfort, convenience, and efficiency!"

The advertisement then listed the various conveniences to achieve these results:

"All steel cabinets; clean, smooth, sanitary! One piece counter surface; easy to keep sparkling! Electric dishwasher; convenient timesaver! Garbage disposer; sanitary, quick and easy! Ventilating fan; removes those cooking odors! . . . and, of course, room for your new range, refrigerator, food freezer, and automatic laundry equipment.

"Stop in to see your favorite dealer now for his help in planning your Modern Kitchen!"

To make it a double-barreled promotion, the association enlisted the aid of contractors and architects. A two-week contest was held in which local designers and builders submitted plans for the most attractive, efficient, and convenient kitchens.

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DISPLAY CASE LINE

- Every type of display case.
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- Self-Service and conventional cases.
- Variety of sizes and endless models for any store layout.
- Economical and Efficient.
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For information write: Victor

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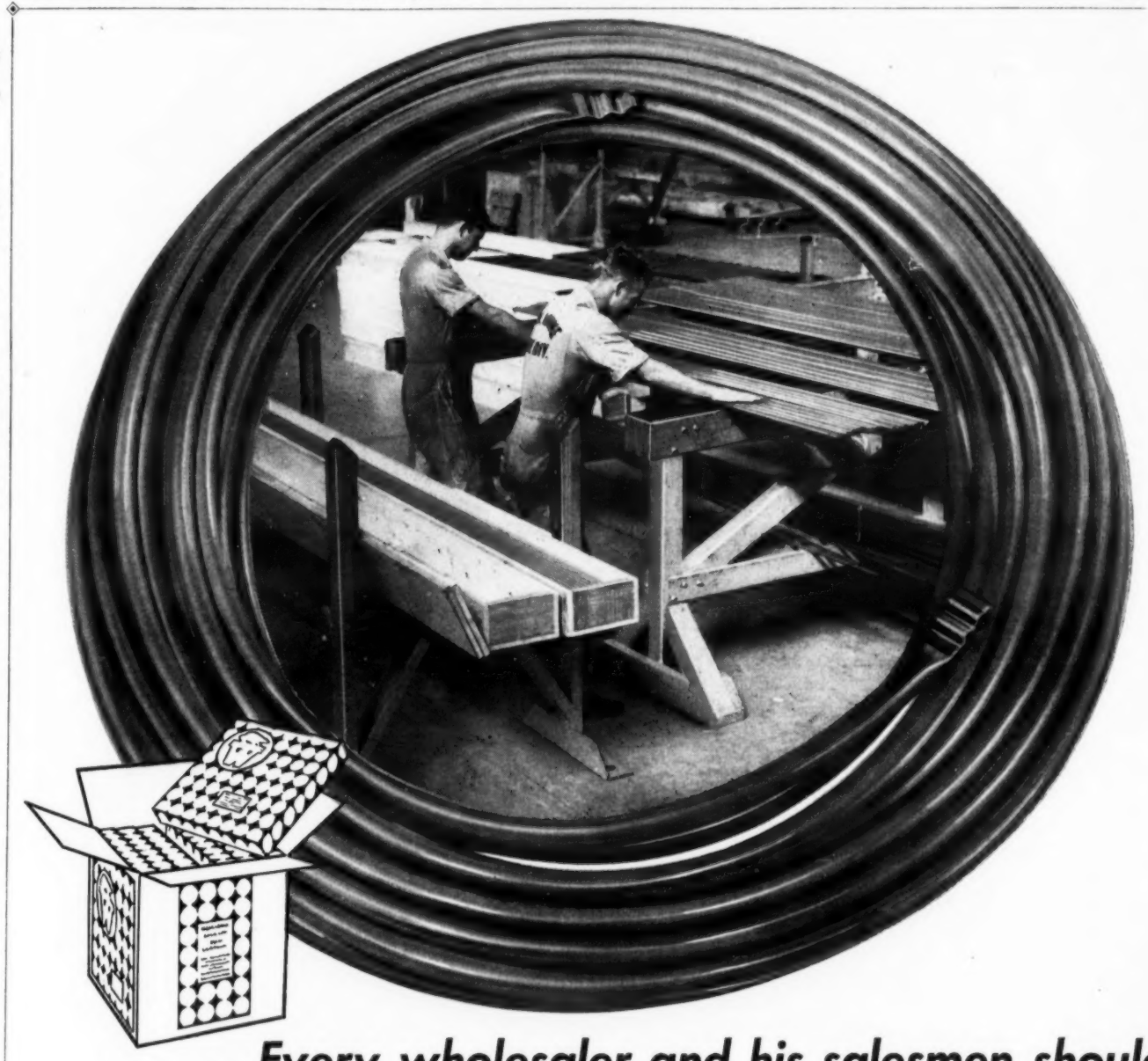

. . . Every wholesaler and his salesmen should know how INSPECTION affects refrigeration tube

To assure your salesmen of top quality refrigeration tubing at all times and enable them to stand back of the product they sell to your customers, we place much importance on the factor of inspection.

Starting right from the casting of the raw metal, when each heat is analyzed by metallurgists for correct chemical constituents, each successive step in the production of Wolverine tube must pass the composite approval of a series of inspectors who see that the ultimate tube is uniform (and will accept threading or bending safely); that it is of proper temper for the specific purpose it is intended (not too hard, not too soft); that the interior is clean, dry, and smooth; and, as a whole, possesses in every detail all the qualities a good tube should have.

Our high standards of inspection assure you of the kind of copper refrigeration tube you can be proud to deliver to your customers. WOLVERINE TUBE DIVISION, Calumet & Hecla Consolidated Copper Company, Incorporated, *Manufacturers of seamless, non-ferrous tubing,* 1413 CENTRAL AVENUE, DETROIT 9, MICHIGAN.

Sales Offices in Principal Cities *Plants in Detroit, Mich. and Decatur, Ala.*

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FED BY CONVEYOR: Conveyor rack on rear deck of open cases simplifies bringing pre-packaged meats from wrapping room to the displays in the new Loewenstein Food Market in Detroit. Arrow points to swinging door in wall of wrapping room through which loaded trays are placed on conveyor.

OVER-ALL VIEW: Self-serve meat cases extend along the right side of the Loewenstein market, and on the left of this wide aisle are open delicatessen, dairy, and frozen food cases. The entire market, which is located on the ground floor of a five-story downtown parking garage, is outfitted with C. V. Hill cases. The cases and sectional storage coolers were installed by Western Refrigeration & Equipment Co., Inc., Hill distributorship in this area.

Narrow Supermarket Uses Conveyor Belt To Load Meat Cases

DETROIT — An unusual approach to the problem of getting pre-packaged meats from the wrapping room to the open display cases has been devised for the new Loewenstein Food Market in downtown Detroit.

A conveyor rack runs from the packaging room down the full 52-ft. long row of open cases, being installed on the rear top of the cases, as shown in the accompanying photos (see above).

Oblong-shaped trays are filled with pre-packaged meat or poultry in the wrapping room and then pushed through a swinging trap door. The trays roll smoothly along the conveyor until they are stopped by the employe behind the cases.

The conveyor system offers a big advantage in this store because space is limited. Over-all length of the market is 102 ft., but the width is 35 ft. Conventional arrangements could not easily have been worked into this layout.

Hill cases and coolers were used throughout, being installed by Western Refrigeration & Equipment Co., Inc., Hill distributorship in the area, headed by Jack Pearlman. The refrigeration hookup was made by Johnston Refrigeration Construction, contracting firm here.

MARKET IN PARKING GARAGE

Another unusual aspect of the Loewenstein market is that it occupies the ground-floor corner of the new five-story semi-enclosed Shoppers Parking building. This structure takes up a full city block in the heart of downtown Detroit to provide off-the-street and under-cover parking for downtown shoppers.

In this connection the market has devised an order system whereby shoppers may leave their orders at the market as they park, picking up the order when they return for their cars. Loewenstein's provides a carry-out service to the cars.

The self-serve meat department occupies virtually the full length of the store along the sidewalk side, including the meat cases, pre-packaging and cutting rooms, and the walk-in cooler.

Row of open cases consists of four 11-ft. and one 8 ft. 6 in. Hill model 41-DDR "reach-over" self-serve cases. Front of these cases is 51 in. from floor to the top of the front rail.

As stated previously, the conveyor rack rests on the rear top of the cases, being about 42 in. off the floor.

The conveyor is about 10 in. wide. Platform behind the cases is about 4 in. off the floor to facilitate working the case from the rear.

These cases are standard Hill equipment, a slight modification having been made in the end panel of the 8-ft. case to fit in the conveyor.

WORK ROOMS, COOLERS OF SECTIONAL CONSTRUCTION

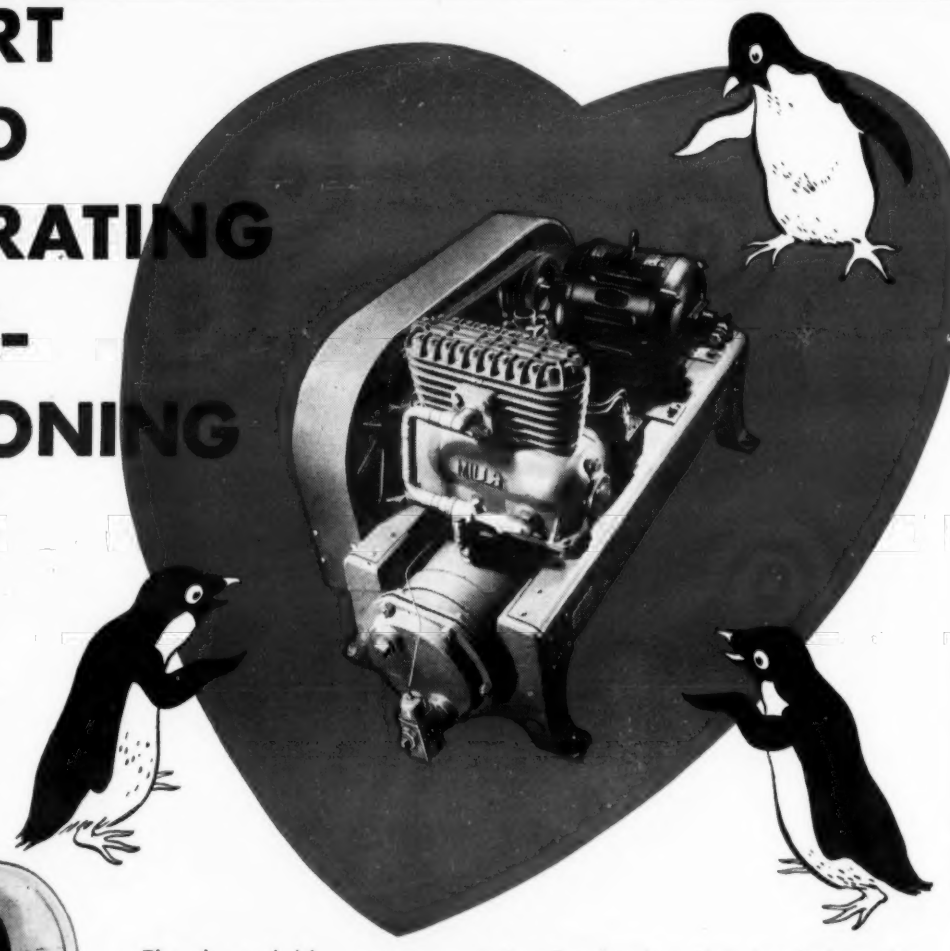
The pre-packaging room as well as the cutting room and meat and produce coolers are of sectional construction, having Marlite paneling. Extensive use is made of glass in the pre-packaging and cutting rooms so customers may see exactly how the meat is cut and wrapped. The pre-packaging is done in a room that measures approximately 18 by 10 ft. in size. A ceiling-mounted radial cooler holds the temperature here at around 60° F.

Also in this room is a Hill 20-SS platter storage refrigerator with full-length doors. Trays of wrapped meat or poultry can be held here until they're placed on the conveyor and shot out to the cases. The platter refrigerator is also employed for over-night or week-end storage.

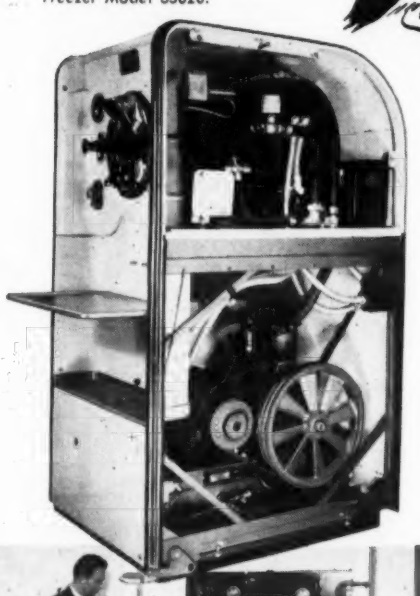
Beyond this room is the cutting

(Concluded on next page)

THE HEART OF GOOD REFRIGERATING AND AIR-CONDITIONING SYSTEMS



Mills 2 H.P. Self-Contained Water-Cooled Mills Condensing Unit in Mills Master Superautomatic 5-Gallon Freezer Model S5020.



The dependable operation of the Condensing Unit is vital to the success of any system of cooling, refrigeration or air-conditioning.

It is this marked dependability of Mills Condensing Units that has been responsible for their continued and growing use by those most experienced in the use of such units.

MILLS Units are compact, sturdy, efficient—made in a range of capacities to meet practically all applications:—¼ to 3 h.p., air-cooled; ⅓ to 10 h.p., water-cooled; and ½ to 3 h.p., combination air- and water-cooled types.

New Catalog 204-1 is a handy guide to Condensing Unit selection —write for a copy.

MILLS INDUSTRIES, Incorporated
4100 FULLERTON AVENUE CHICAGO 39, ILLINOIS

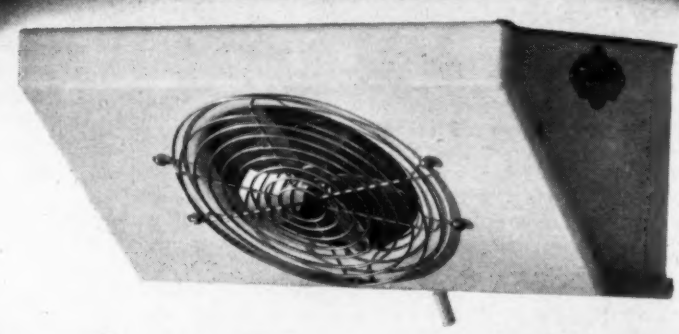
Ask for New Catalog 204-1

Typical installation of Mills Compressors. There is an efficient, dependable Mills Condensing Unit for every installation.

Note this bank of Mills Compressor Units. The practice of grouping units is growing rather than distributing them at various points about the location.

MILLS
COMPRESSORS and CONDENSING UNITS

BETZ CEILING UNITS



Only 8⅞ inches high

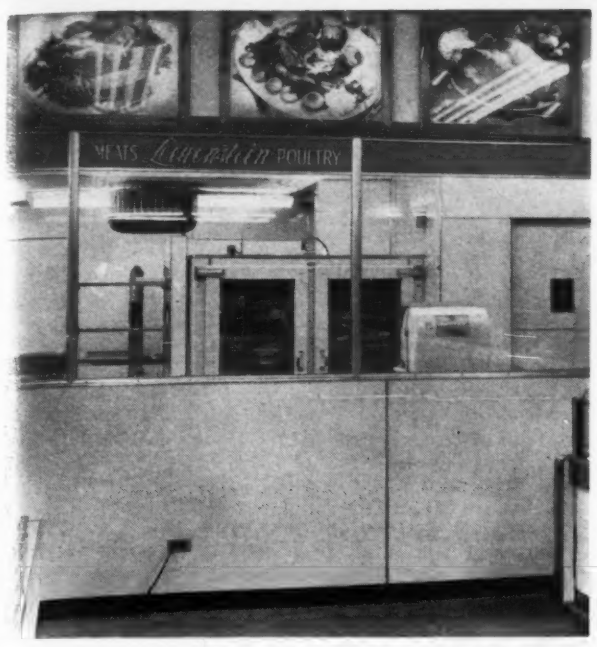
Designed Specifically for Reach-Ins

Refrigerated air is exhausted against the back wall and travels in a positive path to the bottom. There is no short-cycling, door sweating or refrigeration losses.

MODEL NO.	BTU AT 1° TD	CFM	SURFACE SQ. FT.	DIMENSIONS H	W	D
100-C	100	180	36.87	8⅞"	18½"	13¾"
130-C	130	250	53.11	8⅞"	24½"	13¾"
190-C	190	310	69.23	8⅞"	30½"	13¾"
260-C	260	415	90.88	8⅞"	38⅛"	13¾"

See Them at Your Wholesalers

BETZ CORPORATION
HAMMOND • INDIANA



WHAT CUSTOMERS SEE: View into the meat pre-packaging room shows circular ceiling unit cooler which maintains about 60° F. and a platter refrigerator. Latter holds trays of packaged meat until needed for cases or for overnight storage.

NO WASTED SPACE: Nine water-cooled condensing units were neatly and compactly installed in the small machine room serving the Loewenstein market by Johnston Refrigeration Construction. Besides six units showing in photo there are three more against facing wall on right.

Meat Cooler Contains Separate Freezer, Poultry Section with Galvanized Floor

(Concluded from preceding page)

room which is likewise cooled by a ceiling unit. An opening is provided between the two rooms so trays of meat can easily be shifted from the cutting to the packaging room. Running from an entrance on the sidewalk through the cutting room to the meat cooler beyond is overhead track to facilitate incoming deliveries. A track scale is provided in the cutting room.

TRIPLE-USE COOLER

Within the meat cooler is a separate insulated freezer and a section designed specially for poultry. This has a separate galvanized floor and drain for cleaning of poultry.

Across a wide 9-ft. aisle from the open self-serve meat cases is a row of two Hill open frozen food cases and three open delicatessen and dairy cases. The latter are Hill's model 256-SS double-deck service cases, each section being 6 ft. 2 in. long.

The adjoining frozen food cases are Hill model 82-FF open cases, each 6 ft. 9 in. long. These are equipped with Hill's automatic "therm-o-cycle" defrost.

Conventional service cases are employed in the market, but these serve the dairy department. They consist of two Hill 60CM cases in a continuous line, one section being 12 ft. 6 in. long, the other 7 ft. 6 in. Behind them against the wall is a Hill 244-SS four-door dairy case 7 ft. 8½ in. long, 2 ft. 9 in. deep, by 6 ft. 10 in. high.

COOLERS RECESSED 5 IN. IN THE FLOOR

Beyond this section is a 23-ft. line-up of unrefrigerated produce cases and the 8 by 11-ft. produce walk-in cooler. Both the produce and meat coolers are 8 ft. 10 in. high, being recessed 5 in. in the floor.

Ahead of the dairy department is the bakery section which includes several Columbus show cases, one of which is refrigerated. Recently Western Refrigeration was appointed Detroit distributor for Columbus Show Case, this operation being directed for Western by John R. LeVasseur, sales manager for the Columbus line.

The market is completely air conditioned with a 15-ton system.

Remote units handling the cases and coolers are located in a small room 6 ft. by 9 ft. 8 in. in size. Here nine Universal Cooler water-cooled condensing units in various sizes are racked three high on angle-iron framework. Despite the limited space, the units are accessible.

Calif. Berry Growers To Get Freezing Service

SAN JOSE, Calif. — The Central California Berry Growers Association expects to set up a freezing service for its members this season.

The association plans to freeze whatever volume of strawberries is necessary to stabilize the market, it is reported. The reason for this step, it was said, is that competition between large and small producers in the past has unstabilized the market for frozen strawberries at times, causing great fluctuations of prices and quality standards.

The association, with 240 grower-members, is said to handle about 85% of the strawberries from this area.

The proposed program calls for members who have freezing facilities to continue to freeze and market their own production. The growers expect a large increase in berry production this year.

General Controls Sales, Profits Nearly Double '49

LOS ANGELES—General Controls Co. here nearly doubled its net sales and net income during 1950 as compared with 1949, the company announced in a preliminary report recently.

Net sales were $13,176,199 for the year ending Dec. 31, 1950 and $7,008,141 in 1949.

Net income totaled $1,152,366, or $5.06 per common share, in 1950 as compared with $579,185, or $2.32 per share in 1949.

Anheuser-Busch Tells Own History In Film Feature Acted by Hollywood Cast

ST. LOUIS — An informative and dramatic sound motion picture that tells a compelling story of industrial progress has recently been produced by Wilding Picture Productions for Anheuser-Busch, Inc. here.

Entitled "The House that Faith Built," this 39-minute film features a Hollywood cast and is described as "outstanding for its authenticity and close attention to detail."

Opening scenes are set in the office of a museum historian who is helping a reporter prepare a story about industry. He cites the record of Anheuser-Busch under the American system of free enterprise, and his account of that firm's development from the days of the Civil War to the present serves as a story theme for the picture. It is also graphically pointed out how such growth would have been impossible under a totalitarian form of government.

Of particular interest is the wide variety of products this firm undertook to manufacture over the years as a matter of practical necessity, such as baker's and pharmaceutical yeast, malt corn starch, stock feed, and refrigerator cabinets.

Prints of "The House that Faith Built" are available on loan free.

WHY WAIT?

Get your new product info pronto. Use coupon on "What's New" page this issue. Use Key No. for fastest service.

pressure-lubricated compressors NEED THIS Automatic Protection!

Low oil pressure can develop even in the best pressure-lubricated compressors. But damage to seals and bearings resulting from such a condition can be *prevented* with the PENN Series 275 Oil Protection Control!

Here's how this *low-cost* control works. When compressor starts, if oil pressure does not build up to proper point within a safe time period, the Series 275 stops the compressor *automatically*. During the running cycle, if oil pressure drops below a safe minimum . . . and does not return to normal within a safe time period . . . the control shuts off compressor operation. Thus, the compressor is protected *automatically* at all times!

Learn more about the Series 275 . . . ask your wholesaler or write **Penn Electric Switch Co., Goshen, Indiana.** Export Division: 13 E. 40th Street, New York 16, N. Y., U. S. A. In Canada: Penn Controls Limited, Toronto, Ont.

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AUTOMATIC CONTROLS
FOR HEATING, REFRIGERATION, AIR CONDITIONING, PUMPS, AIR COMPRESSORS, ENGINES, GAS RANGES

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FILTER-DRIER
with Tri-Dimensional Filtering Area...
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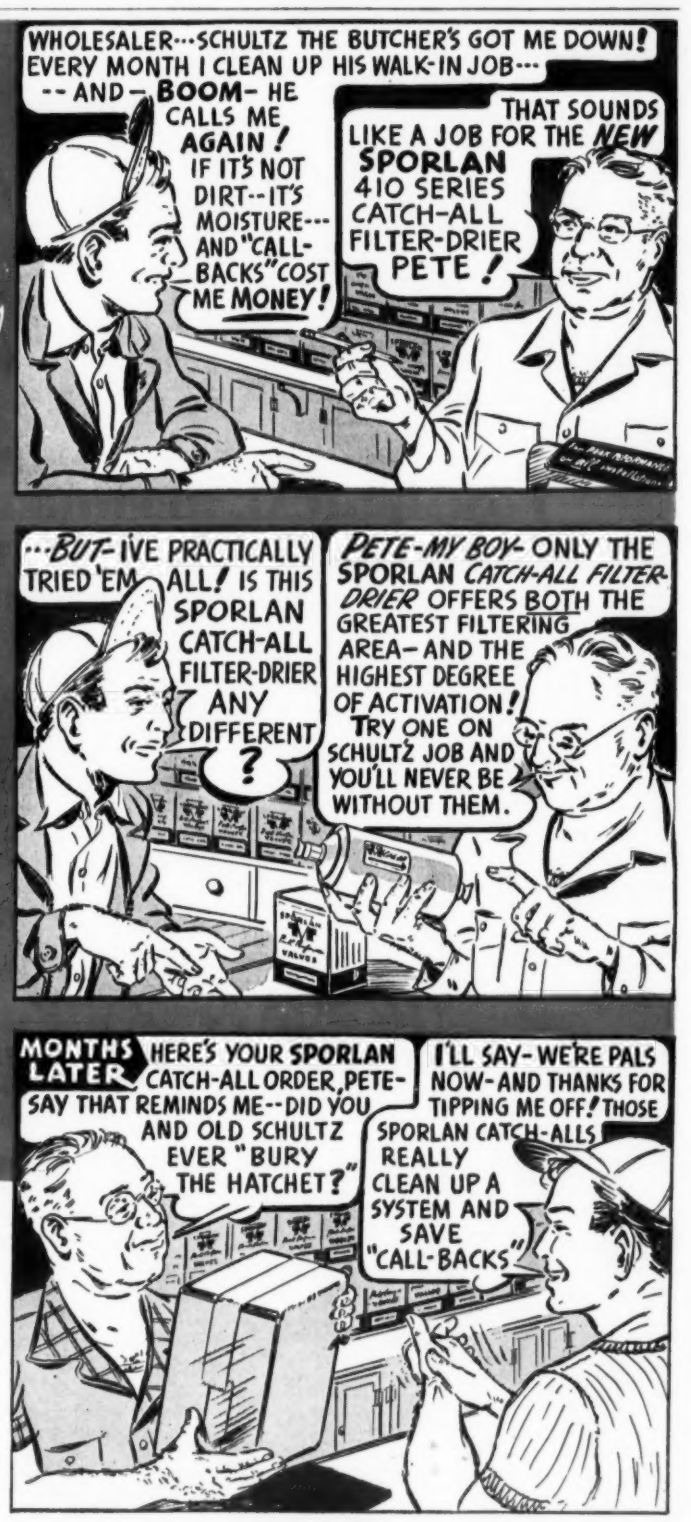
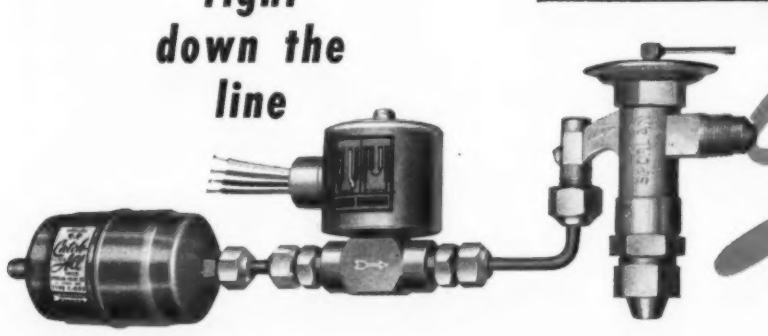
STRAINERS · CATCH-ALLS
and the Only THERMOSTATIC EXPANSION VALVES
with FLOWMASTER ELEMENTS and SELECTIVE CHARGES


WHOLESALER···SCHULTZ THE BUTCHER'S GOT ME DOWN! EVERY MONTH I CLEAN UP HIS WALK-IN JOB··· --AND— BOOM— HE CALLS ME AGAIN! IF IT'S NOT DIRT--IT'S MOISTURE··· AND "CALL-BACKS" COST ME MONEY!
THAT SOUNDS LIKE A JOB FOR THE NEW SPORLAN 410 SERIES CATCH-ALL FILTER-DRIER PETE!
···BUT-I'VE PRACTICALLY TRIED 'EM ALL! IS THIS SPORLAN CATCH-ALL FILTER-DRIER ANY DIFFERENT?
PETE-MY BOY- ONLY THE SPORLAN CATCH-ALL FILTER-DRIER OFFERS BOTH THE GREATEST FILTERING AREA— AND THE HIGHEST DEGREE OF ACTIVATION! TRY ONE ON SCHULTZ JOB AND YOU'LL NEVER BE WITHOUT THEM.
MONTHS LATER
HERE'S YOUR SPORLAN CATCH-ALL ORDER, PETE- SAY THAT REMINDS ME--DID YOU AND OLD SCHULTZ EVER "BURY THE HATCHET?"
I'LL SAY- WE'RE PALS NOW- AND THANKS FOR TIPPING ME OFF! THOSE SPORLAN CATCH-ALLS REALLY CLEAN UP A SYSTEM AND SAVE "CALL-BACKS"

for PEAK PERFORMANCE
on all installations
... buy Sporlan
right
down the
line



Sporlan VALVE COMPANY
SPORLAN
7525 SUSSEX AVENUE • SAINT LOUIS 17, MISSOURI

They'll Do It Every Time . . . . By Jimmy Hatlo

A MAN WITH AMBITION, GASTRIC VAN BILK TOOK FIVE-MINUTE LUNCHES··· SANDWICH AND MILK —
C'MON! RELAX FOR ONCE! ALL THE BRASS IS AWAY··· WE'RE GOING OVER TO THE DUTCHMAN'S AND PIN ON A REAL FEED···
NOPE (GULP-GULP) YOU PLAYBOYS GO AHEAD···I GOT TOO MUCH TO DO (GULP) TIME ENOUGH TO RELAX WHEN I'M HEAD MAN OF THIS OUTFIT··· (GULP)
MILK
COPR. 1951, KING FEATURES SYNDICATE, Inc., WORLD RIGHTS RESERVED
NOW HE'S THE BOSS···· COULD TAKE ALL AFTERNOON···BUT THE POOR SCHMOE CAN'T GET HIS ULCER IN TUNE!
NO, ALFRED··· NOTHING ELSE··· JUST A GLASS OF SKIM MILK AND SOME HOT WATER AND BAKING SODA···
JIMMY HATLO
2-20
THANX TO MRS. NAOMI INIGHT, 24 E. LANDING ST., LUMBERTON, N.J.

Do You Have 'Both Feet On The Ground'?

Compare every feature— then you'll sell *Pinnacle!*

AMERICA'S COMPLETE LINE OF COMMERICAL REFRIGERATORS *that answers every demand*-for BEAUTY, QUALITY, PRICE, LONG DEPENDABLE SERVICE!

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- All frames constructed of dry, No. 1 lumber securely fastened with screws.
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- All hardware of heavy duty cast brass type.
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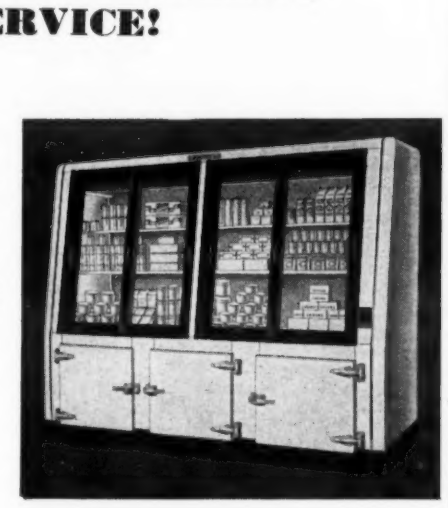
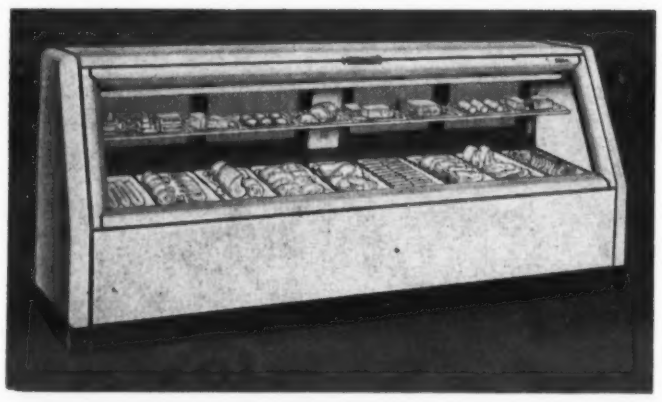
- Easy finger-tip sliding doors.
- Adjustable shelves.
- Triple, clear vision Thermopane.
- Long, satisfactory, economical service.



Enjoy Greater Profits through Pinnacle Refrigerators



- DOUBLE DUTY DISPLAY CASES
- DAIRY, BEVERAGE, VEGETABLE REFRIGERATORS
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- FULL VISION DISPLAYS
- REACH-IN REFRIGERATORS
- MEAT, POULTRY, FISH CASES

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VOLUME 62, NO. 16, SERIAL NO. 1,152, APRIL 16, 1951

"I have always felt that whatever the Divine Providence permitted to occur I was not too proud to report. The people are not served by pussyfooting, or by that sort of journalism in which nobody will ask who is the editor of a paper or the writer of an article, and nobody will care."—*Charles A. Dana.*

Losing the Customer In the Store

A NEW kind of merchandising research has revealed data on lost sales that should be interesting, if not startling, to the major appliance industry.

This study raises the question of whether or not merchandising at the point of sale needs re-examination and at least some revision in line with today's shopping habits.

The data was turned up by a consumer panel in Pittsburgh. The panel is managed by the University of Pittsburgh under sponsorship of *The Pittsburgh Press.*

Among other thing, it was found that the lost-sale figure in major appliances and home furnishings is 45%. This compares with 18% in hardware and housewares, 22% in men's wear, 24% in domestics, 26% in boys' wear, 27% in women's wear, 28% in infants' items, and 29% in girls' wear. In other words, Pittsburgh merchants have a much harder time selling major appliances than most other lines.

Assuming that the experience of Pittsburgh retailers is typical—and it probably is, what do these figures mean to appliance people?

The fact that the lost-sale percentage in major appliances is much greater than in the other lines is not, in itself, shocking news. As a rule, people look around more and deliberate longer before buying these items.

But do these lost-sale percentages prove that retail salesmen are falling down on the job? Department store executives who have commented on the findings maintain that "it ain't necessarily so." They do admit, however, that retailers must keep everlastingly at the task of improving their sales training programs and their personnel.

One of them thinks that the merchandising approach needs to be changed. He calls attention to the current thinking of department stores.

Taking a tip from the supermarkets, which have used the self-service arrangement so successfully, they are tending to give the shopper more freedom to roam about and look over the merchandise, he points out. The trend here is to ease up on sales pressure and bear down on sales service.

Accomplishing this objective, he goes on, "calls for a different type of merchandising." He explains:

"We have to have different kinds of displays, so that customers can examine goods readily and conveniently. It means more information at the point of sale, provided by both manufacturers and stores. We are using far more descriptive signs which help shoppers select merchandise intelligently."

Whether this kind of "sales service" would save a lot of lost appliance sales is undoubtedly debatable. But some appliance dealers apparently think so. They have asked on more than one occasion that manufacturers provide more product selling information, particularly more descriptive tags. And some manufacturers have done so.

Now, when trained salesmen called into service have to be replaced in a hurry by untrained or incompletely trained personnel, more complete information on product tags should be doubly valuable—aiding the salesman as well as the shopper.

Maybe the idea should be studied further. A lost-sale percentage of 45% seems too high to ignore. Perhaps more "sales service" would help to reduce the figure.

FTC Orders Ozone Generator Firm To Cease False, Exaggerated Claims In Advertising

WASHINGTON, D. C.—A cease and desist order was recently issued by the Federal Trade Commission against Margaret Ryan of Portland, Ore., for falsely advertising advantages for her Atmoray ozone generator that the device actually does not provide.

Mrs. Ryan, who trades under the name of Charles N. Ryan (her deceased husband) and Atmoray, Inc., was ordered to stop making six specific claims for the ozone generator. One of the uses that the generator is supposed to have is to provide complete air purification in one compact unit for food locker plants, warehouses, meat markets, and other such places.

The six claims, that the FTC says are "exaggerated, false in their implication, and misleading and deceptive in their breadth and lack of qualification" are:

1. That ozone is a natural substitute for sunlight.
2. That ozone is as effective as sunlight in eliminating or alleviating contamination.
3. That ozone will eliminate and destroy all odors.
4. That in concentrations tolerable to humans ozone destroys airborne bacteria, or that it eliminates carbon monoxide or excessive carbon dioxide from the air under all conditions.
5. That ozone purifies the air under all conditions.
6. That the ozone generator is safe for use anywhere. To use this statement, it must be stated in connection with such representation and in an equally forceful manner that concentrations of zone in excess of one part per million parts of air for prolonged periods of time may result in respiratory irritation upon inhalation and that proximity to the device should be avoided.

Mrs. Ryan was given 60 days in which to file with the FTC a report in writing setting forth in detail the manner and form in which she has complied with this order.

West Penn Power Chart Gives Operating Cost of Appliances, Housewares

PITTSBURGH—A chart giving the estimated wattage, kilowatt-hour consumption, and operating cost of a number of major appliances and electric housewares has been published by the West Penn Power Co. here for use by dealers in their sales presentations.

Monthly and yearly uses are listed so that customers can get the proper perspective on the cost of appliances that they use only in certain seasons, the utility pointed out.

All figures in the operating cost table are based on normal usage by average families.

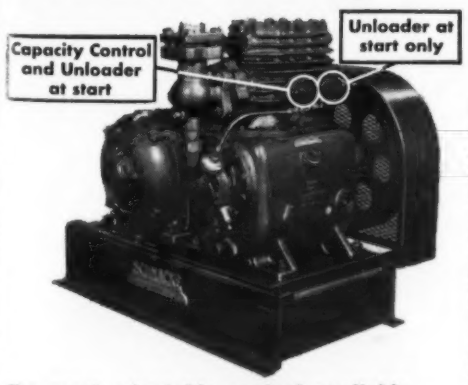
The chart which shows operating costs for 29 items follows:

Estimated Wattage, Kilowatt-Hour Consumption, and Operating Cost, Assuming Normal Use

Electrical Appliance	Average Wattage	Estimated Kwh. Use Per Year	Estimated Kwh. Per Month of Use	Approximate Cost Per Month at 3¢	Approximate Cost Per Month at 2¢
Bed Covering (5 mos.)	215	130	26.0	$ .78	$ .52
Cleaner, Vacuum	200	24	2.0	.06	.04
Clothes Drier	4,500	720	60.0	1.80	1.20
Clock	2	18	1.5	.045	.03
Dishwasher	250	36	3.0	.09	.06
Fan, Desk (3 mos.)	75	6	2.0	.06	.04
Food Mixer	120	6	.5	.015	.01
Freezer, Home (6 cu. ft.)	200	504	40.0	1.20	.80
Freezer, Farm (25 cu. ft.)	400	882	70.0	2.10	1.40
Garbage Disposer	250	12	1.0	.03	.02
Germicidal Lamp	4-8-15-30	132*	11.0	.33	.22
Iron	1,000	96	8.0	.24	.16
Ironer	1,400	126	10.5	.31	.21
Percolator	600	60	5.0	.15	.10
Precipitator	80	700†	58.0	1.74	1.16
Pump	250	228	19.0	.57	.38
Radio (console)	100	100	8.5	.25	.17
Radio (table)	60	60	5.0	.15	.10
Range	10,000	1,140	95.0	....	1.90
Refrigerator	200	336	28.0	.84	.56
Roaster	1,320	225	19.0	.57	.38
Stoker (7 mos.)	250	280	40.0	1.20	.80
Sun Lamp (RS)	275	12	1.0	.03	.02
Television	300	300	25.0	.75	.50
Toaster	800	30	2.5	.08	.05
Waffle Iron	800	12	1.0	.03	.02
Washer (conventional)	250	30	2.5	.08	.05
Washer (automatic)	375	60	5.0	.15	.10
Water Heater	1,500	3,420	285.0	....	3.35‡

*Continuous service 15-watt lamp. †Continuous service.
‡At 1.15¢ per kwh. $3.35 includes 9 kwh. on-peak @ 2¢.

SCHNACKE COMPRESSORS *feature*
Unloaded Starting or Capacity Control



as required for the job . . .

For applications requiring cylinder unloading for capacity control or starting—Schnacke provides a versatile control designed to fit the job exactly. This device is applied to each cylinder as ordered, for either unloaded start only, or as capacity control and unloaded starting, and priced accordingly—not a flat extra charge. It is not included if you do not need it and you pay only for the actual control ordered.

The most adaptable control available—for unloaded starting only—or for capacity control and unloaded starting just as required for the job. Self-contained, no outside controls, solenoids, or wiring.

Schnacke recommends THERMATROL capacity control for simplest of operation and trouble free performance.

Compressors and Condensing Unit 5 H.P. to 60 H.P.

616 E. COLUMBIA ST. SCHNACKE, INC. EVANSVILLE, IND.

Further Steel Supply Cuts Hinted by ODM

WASHINGTON, D. C., April 2—Producers of refrigerators and other consumer durable goods may have their steel supplies cut back an additional 10% or more (in addition to the 20% cutback in effect April 2) in the third and fourth quarter of this year, it was predicted by General Lucius D. Clay as he resigned from the Office of Defense Mobilization.

Clay made the point that cuts in critical material use for civilian goods have been cautious thus far because defense mobilization officials have sought to avoid large layoffs of production workers, which might scatter the forces in essential industries.

'Free Lifetime' Checkup Given All Customers

BUFFALO—A once-a-year checkup on all refrigerators sold by the Electa-Gas Appliance Co. here is a special service offered without charge to all customers.

The annual checkup includes adjustment of the refrigerator door latch and cold control, cleaning of the condenser, and other needed attention.

This service is rendered to the firm's customers as long as they own their boxes. This is a phase of the firm's "free-lifetime" service policy.

JUST ASK US!
Turn to "What's New" Page for useful information on new products.

He Just Tells 'em What He Can Do

80% of Dealer's Air Conditioning Orders Credited to Just 1 Promotion Letter

DOTHAN, Ala.—A letter listing the kind of equipment it handles and the services it performs is turning many prospects into customers for Vance Equipment Co. here, one of the state's large air conditioning, refrigeration, and heating dealerships.

Printed on one of the company's letterheads, the letter is sent out at regular intervals to all potential prospects for any of the Vance services. These prospects include all new business firms opening in the southeast.

The letter states:

"Gentlemen: "This letter is simply to acquaint you with the types of equipment we are prepared to furnish, the services we are prepared to perform for you, and to solicit your inquiries. We can:

"1. Handle any type air conditioning project you may have, in its entirety, large or small—whether for human comfort or for a manufacturing process.

"2. Handle the furnishing and installing of any type refrigeration project, including cork or fiberglass insulation.

"3. Handle any domestic or industrial heating project up to 4,000,000 B.t.u. This includes steam, hot water, warm air, by use of radiation, unit heaters, industrial heaters, duct.

"4. Do any sheet metal fabricating you may desire.

"5. Handle the furnishing and installation of any size ice plant from 250 lbs. daily capacity to 200 tons daily capacity.

"6. Render 24-hour service on refrigeration, air conditioning, or heating.

"We solicit your inquiries and will endeavor to merit your confidence."

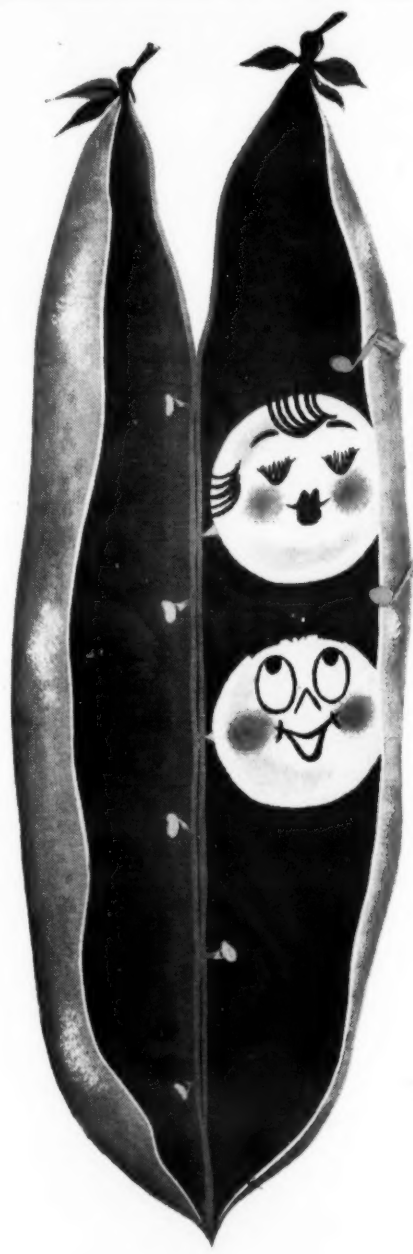
Signed by George N. Vance, manager, the letter bears a postscript noting that the company is a direct factory distributor for Chrysler Airtemp air conditioning, heating, and refrigeration equipment.

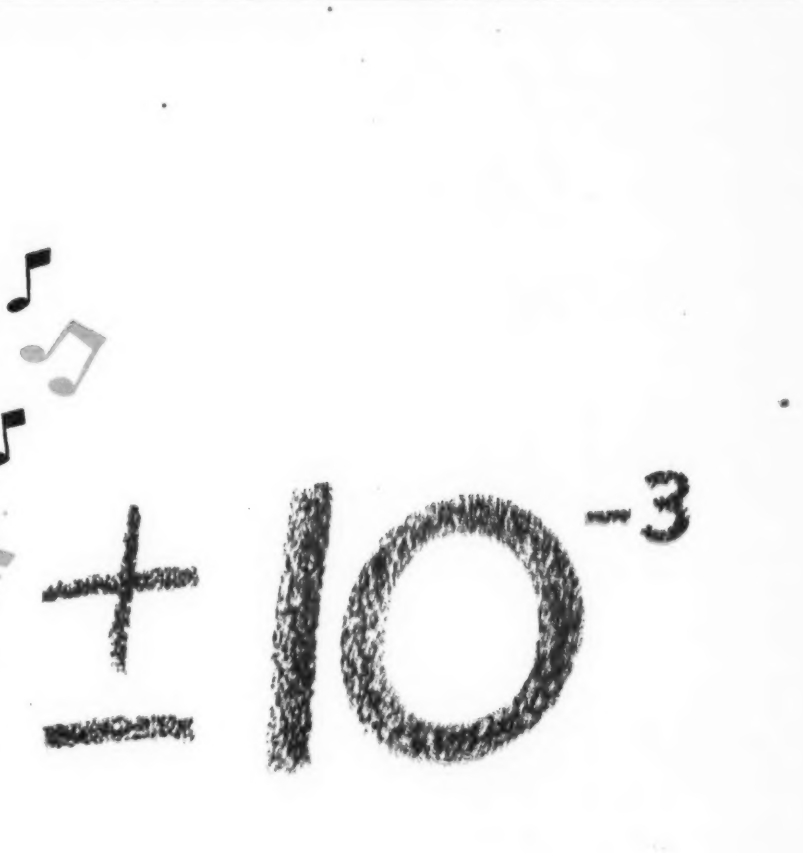
Its good taste goes a long way toward insuring that the letter will be read, said Vance, who explained the thinking on the project:

"Our theory is that by letting the potential customer know exactly what we are set up to do, he'll remember us instantly and give us a call when he must install a new heating plant, or needs comfort cooling, walk-in refrigeration, or any such service."

This would seem to be more fact than theory since, according to Vance, about 80% of the orders for air conditioning equipment the company installed last year resulted from the direct mail program.

Vance credits the letter for bringing in such jobs as installing the complete heating and air conditioning equipment in one of the South's largest hospitals, a 200-ton commercial refrigeration system in a cannery, and many multiple-ton cooling systems in southern Alabama.





If two peas in a pod were alike to ± .001"—that would be a fair description of the bore uniformity of ANACONDA Restrictor Tube.

The tiny I.D., tube to tube, must be *that* uniform (or less, when specified).

Its inside surface must be flawless from end to end.

Its temper must be uniform from end to end.

Every tube in an order must be exactly like every other in all of these respects.

And every tube in every reorder must be identical with the tubes previously supplied.

ANACONDA Restrictor Tubes meet each of these requirements with satisfying regularity.

When you put ANACONDA Restrictor Tubes in your refrigerating units, you know they will perform the way you expect.

We would like to tell you more about the fine features of our restrictor tubes. Just write to The American Brass Company, Waterbury 20, Connecticut.

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Thermo King Units Will Cool 11 Reefers To Haul Milk on Boston & Maine Line

BOSTON — Mechanically refrigerated railroad cars will be used for the first time to bring milk to city markets, according to a joint announcement by the Boston & Maine railroad and the Bellows Falls Co-operative Creamery, Bellows Falls, Vt.

An order for Thermo King refrigerating-heating units to equip 11 of the new "reefers," has been placed with the U. S. Thermo Control Co., Minneapolis. Delivery is scheduled for May 1.

Installation will be made at the Concord, N. H. shops of the Boston & Maine by railroad employes, under the supervision of the Walsh Body & Trailer Corp., Somerville, Mass., New England representatives of U. S. Thermo Control Co.

The cars will be used to haul bottled milk and cream in paper containers from Bellows Falls to Boston, for distribution through First National Stores, at a constant temperature of 35° F.

The equipment is completely automatic, and any desired temperature can be maintained by simply setting a dial, it was explained. The "heat pump" principle, in which the system reverses itself to provide heating if the temperature falls below the dial setting, will keep the milk from freezing during cold weather.

Clark H. Bowen, general manager of the Bellows Falls creamery, said that by eliminating ice and brine in the refrigeration of milk a forward step in sanitation and quality control would be achieved, as well as substantial savings in time and money. Each car will have about 16% more cargo space, and the mechanical equipment weighs only 2,500 lbs., compared to a 7,000-lb. summer load of ice.

The refrigerating mechanism is a self-contained unit installed at one end of the car, and occupying half the space required by ice bunkers. It consists of a 28-hp. gasoline engine, six-cylinder compressor, cooling coil, air circulating fan and automatic controls. "Freon" is used as the refrigerant. The floor racks and wall flues of the car serve as air ducts. Every five hours the unit defrosts automatically.

The Thermo King unit is a complete "package." It can be removed and a replacement installed in about 10 minutes, according to the manufacturer.

Ralph W. Porter, executive vice president of U. S. Thermo Control Co., said this system is the first practical application of mechanical refrigeration equipment to railway freight cars. Two years of tests and several months of commercial operation have shown that controlled temperatures as low as -20° F. can be maintained at low cost, he claimed.

A fleet of Thermo King cars has been put into operation by Fruit Growers Express Co., used chiefly on eastern and southern railroads to haul frozen citrus concentrate. U. S. Thermo Control's equipment is now being used in over 14,000 highway trucks and trailers.

SECTION of the frozen food department of Owl-Mayfair drug and food market in Santa Ana. Along the back wall is the 150-ft. long self-service meat-delicatessen department equipped with Tyler cases. Huge store is one complete operation with no lines of demarcation between departments.

One-Stop Shopping

California Food and Drug Companies Join In Unique Supermarket Venture

SANTA ANA, Calif.—Owl-Rexall Drugs and Mayfair Markets of Los Angeles combined their many years of experience in their allied fields in a joint venture, a "Super-Drug-Food Market of the Future," which opened in Santa Ana a short time ago.

Mayfair executives, Charles Cramer and Edwin J. Fox, and newly elected Owl-Rexall president, Hi Bender, assisted the "Queen of Orange County" in ribbon cutting ceremonies, opening the new one-stop shopping mart to the public.

Housed in a structure more modern than tomorrow, with 165-ft. frontage by 150 ft. deep, the Owl-Mayfair encompasses a floor space area of over 25,000 sq. ft. In addition is three-side mezzanine warehouse space.

Deartments within Owl-Mayfair are huge and are equipped throughout with ultra modern 1951 line of Tyler "forced convection" self-service refrigerated merchandisers.

Included are a complete 150-ft. long self-service meat-delicatessen department, first in the area, a frozen food department of Tyler automatic defrost cases 64 ft. in length, prescriptions, a fountain lunch, bakery, sundries, drugs, toiletries, candies, fresh fruit and vegetables, household wares, gifts, toys, tobaccos, liquors, and cosmetics.

Unique in the operation is the fact that no rigid lines of demarcation separate the drugs from the groceries. The complete operation is integrated into one, only the prescription counter is individualized. Everything else is completely self-service, funneling through a battery of 10 streamlined stainless steel checkstands. It is ultimate in super food marketing and drug merchandising.

Parking facilities, computed in acreage are enormous, shared jointly with a new Sears Roebuck & Co. store which is part of this new shopping center. Over two full city blocks of parking can be entered from three streets for shoppers' convenience.

Santa Ana, the county seat of Orange county, with a population of 40,000, is situated in the heart of rich orange groves and farm land, 25 miles southeast of Los Angeles. It lies athwart new super speed freeways which have opened all the territory between Los Angeles, and coastal beach communities, Balboa and Newport Beach, for suburban housing.

Shoppers received free gifts during each of the four days of opening celebration. The first 500 women each morning received a plastic salad serving tong. Gum, candy, razor blades, and many other items were given away, also. A drawing for other prizes, among them a 16-in. television set and a 12-cu. ft. refrigerator was part of the planned celebration.

A circus for children "The Big Little Top" with trained ponies, dogs, clowns, and monkeys drew capacity crowds at each hourly showing. Other entertainment was provided by "Walkin' Charlie" Aldrich, cowboy television star.

This joint multi-million dollar venture was financed by Pacific Mutual Life Insurance as part of their investment policy.

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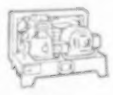
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MORPAC BUTTER & OLEO CARTONING MACHINES

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Safeway Stores' Supermarket Stresses Self-Service, Year-Round Conditioning

LINCOLN, Neb.—Safeway Stores, Inc., opened its largest supermarket in Nebraska recently at 1626 South St. here, featuring a self-service meat department, over 200 lineal feet of open top refrigerator and freezer cases, and year-round air conditioning. More than $35,000 was grossed during the first three days of operation, it was indicated.

The new building is 80 by 130 ft., of reinforced concrete, brick, and glazed tile construction, and has 21,800 sq. ft. of floor space including a full basement. The fresh vegetable cases are refrigerated, while the open top fixtures in the self-service meat section are filled through sliding doors at the rear.

All the refrigerated display cases on the selling floor, including 30 ft. of frozen foods cases and 42 ft. of open dairy cases, were furnished by Hussmann. Four walk-in coolers in the basement were furnished by the same firm.

Seventeen Baker Ice Machine Co. compressors were installed in double-deck arrangement in the basement to service the display cases and basement coolers, along with a separate air conditioning system for the meat cutting and pre-packaging room in the basement. Compressors were installed by the A-1 Refrigeration Service Co. of Lincoln.

A separate basement room houses a Carrier air conditioning unit, installed by Max Lehman of Lincoln, Carrier distributor, and a Bryant automatic gas furnace. The cooling and heating units utilize the same ductwork.

The meat pre-packaging room is 24 by 50 ft. and located directly beneath the self-service meat department display cases. Dumb waiters elevate the pre-packaged meat to a position directly back of the display cases where the cases can be filled without interfering with traffic in the selling area.

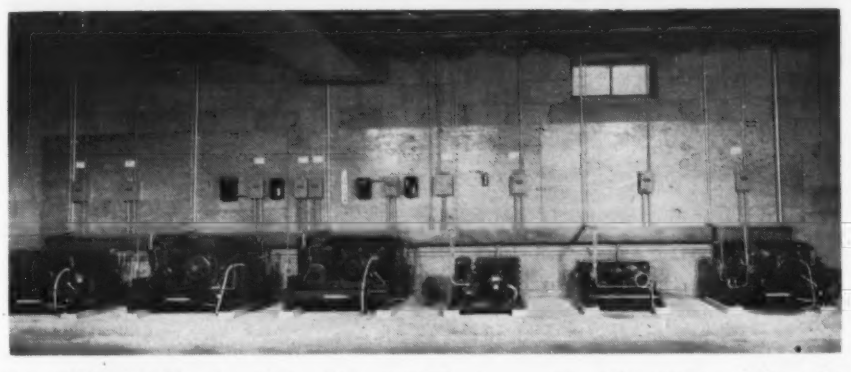
Inside the pre-packaging room is a 6 by 24-ft. walk-in cooler for meats, served by two doorways. A second walk-in, 6 by 14 ft., is provided for dairy products, eggs, and oleomargarine. A 6 x 26-ft. box was installed for vegetables and produce storage, while the frozen food box is a 6 by 10-ft. walk-in.

Refrigerated drinking fountains also are provided in the first floor selling area.

A monorail system was installed between the freight elevator and meat cooler boxes to facilitate the handling of quarters and halves of beef.

Handling of merchandise also is facilitated by 470 lineal feet of new power and gravity conveyors, laid out in a grid to provide readily accessible service to every part of the basement, and from street level to the basement. Merchandise is stored in the basement in the same relative position as on the selling floor.

Other features of the modern store include a paved parking area, lighted at night, with over 32,000 sq. ft. of free parking space, eight high-speed check-out counters, fluorescent lighting on the interior and neon on the outside, linoleum-tile floors, electric-eye controls for opening doors, telescoping shopping carts, and built-in shadow-boxes on the outside of the store front for display of merchandise.



SIX COMPRESSORS of various sizes mounted on a cork and concrete platform by Jerry's Refrigeration Co., Wausau, Wis. Units are part of a supermarket installation made by the company.

Extra Measure of Goodwill

Refrigeration Co. Mounts Compressors On Cork and Concrete To Lessen Noise

WAUSAU, Wis. — An important source of goodwill in commercial refrigeration installations in food stores and drugstores has been a specialty compressor-mounting method, which has been developed by Jerry's Refrigeration Co. here.

After much experimentation in the company's shops, a system has been worked out whereby all compressors are mounted on a concrete-block base, with a layer of cork under each leg of the compressor, no matter what size.

Installation of the concrete blocks, all of which are fabricated on the site with handy variable forms developed by Gerald Mertinke, head of the firm, is of course an expensive process, but "pays off in goodwill and repeat orders," Mertinke has found.

The concrete and cork bases are provided for every compressor, all the way from small ¼-hp. units up to 5-hp. and larger types. There is no vibration, no noise, the machine operates far more efficiently, and will give longer life, Mertinke tells each of his customers.

"We developed the idea of providing this mounting when we found that many grocers objected to the rumble and building noises which larger compressors made, even when mounted in the basement," he said.

"Wooden platforms are likely to create sounds of their own. Therefore, we merely form a concrete block, setting the bolts in while the material is still wet, and in this way, provide enough weight and shock-insulation that noise and vibration are no longer an appreciable factor."

Brennan Named Comptroller For Baker Refrigeration Co.

SOUTH WINDHAM, Me. — Frederick W. Smith, president of Baker Refrigeration Corp., has announced that John Brennan was appointed comptroller recently and has complete supervision of accounting and cost departments.

For the past 20 years Brennan has been associated with Todd and Brown, which, as Baker, is an affiliate of the Equity group. During the past 10 years he has held the position of comptroller of the Kingsbury Ordinance Plant located at LaPorte, Ind.

Fred W. Mahaney will continue in the position of assistant comptroller.

Candy, Biologicals Share Refrigerated Case In Tennessee Drugstore

NASHVILLE, Tenn.—Candy sales are maintained at a high level in Florence Drug Co.'s store on the Murfreesboro highway here through use of a refrigerated, self-service "meat" case which also doubles as a biological refrigerator.

Located midway down the right side of the store where most of the traffic passes, the Hussmann case has three levels on which around 36 popular varieties of candy bars, packaged candies, and the like are displayed. A dial-type thermometer indicates that the temperature is 35°, which keeps the candy in perfect condition the year-round.

The combination of refrigeration and self-service has proven irresistible to many customers, according to T. H. Florence, owner of the drugstore, who has been using the case for more than eight years.

"For some reason, people appear to appreciate refrigerated candy more than that which is not refrigerated," Florence commented. "The same thing holds true the year-round. Customers who normally would pay no attention to ordinary candy displays stop to look over the large refrigerated selection and buy several merely because of eye-appeal and because they are sure the candy bars are in perfect condition."

Below the shelves of the case, out of sight, are compartments and drawers in which Florence Drug maintains its stock of biological drugs and other small items requiring constant refrigeration.

The store interior is kept pleasantly cool by a 10-ton packaged air conditioning unit.

Pinski Bros. To Represent Sweden In Great Falls

SEATTLE — The Sweden Freezer Mfg. Co. here has announced the appointment of Pinski Brothers, Inc. as the authorized sales outlet for its freezers in Great Falls, Mont.

The Pinski Brothers are celebrating their 30th year in serving the plumbing, heating, and refrigeration needs of Great Falls. Their brand-new headquarters building features 5,000 sq. ft. of showrooms for demonstration and display.

In addition to representing the Sweden Freezer Mfg. Co., Pinski Brothers also handle York refrigerating machines, Hill fixtures, Hotpoint, and Westinghouse appliances.

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"Ro-Fin" Tubes

There are nearly 100 sizes of Rome Extended Surface Helical Fin Tubing in production . . . with or without threaded end connections, or to be used with standard flare connections.

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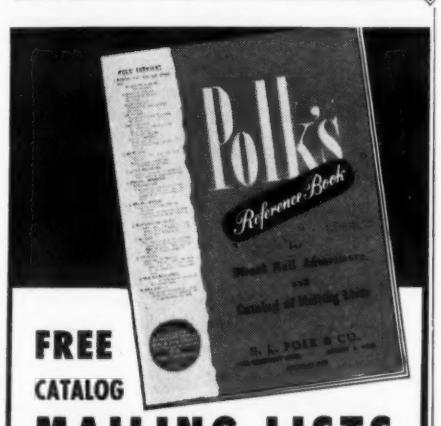

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This 28-page illustrated booklet gives complete data on Tyler facilities—part of which will be available for defense work.

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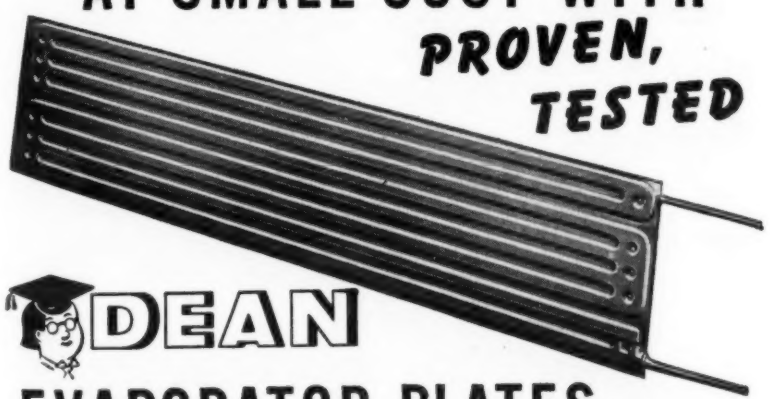

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There's a DEAN cold plate for every application . . . designed and built by men who have years of experience and practical "know how" in solving difficult refrigeration problems . . . your guarantee of quality.

DEAN makes cold plates for ice cream cabinets, locker plants, soda fountains, farm milk coolers, farm freeze cabinets, low temperature test rooms, frosted food refrigerators, window displays, food counters, refrigerated transportation and sub-zero applications for industrial chilling. Custom built plates available on special order, such as cylinders, U's, angles, tanks, stainless steel, etc. Plates also available for Baudelot-Type Coolers.

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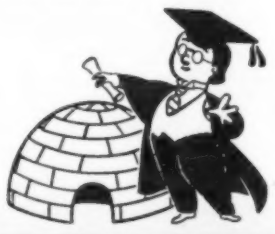

Simplex Mfg. Co. Reach-In for Dairy Products and Beverage Display Is Available In 4 Sizes

"Col-Temp Best-Vue" refrigerated reach-in manufactured by Simplex is designed especially for beverage and dairy product display. Units are available in 2, 3, 4, or 5-door models. Model 56 (above) has 56 cu. ft. of storage capacity and is powered by a ⅓-hp. unit.

—KEY NO. A-430—

OAKLAND, Calif.—A reach-in refrigerator with glass doors for the display of beverages or dairy products is being manufactured in four sizes by the Simplex Mfg. Co. here.

Called the "Col-Temp Best-Vue" refrigerator, the unit features doors that are flush, constructed of extruded aluminum with chromilite finish, and have increased glass area. Door opening is 22 by 51 in.

The refrigerator is finished in baked Dulux enamel with stainless steel interior bottom, adjustable wire shelves, and 3 in. of insulation. It is powered by a hermetically sealed unit with heavy-duty blower.

It is made in a two-door 38-cu. ft. model, three-door 56-cu. ft. model, four-door 74-cu. ft. model, and five-door 96-cu. ft. model.

The 56-cu. ft. unit is powered by a ⅓-hp. unit and measures 78½ in. high, 30½ in. deep, and is 74½ in. wide.

Make money out of Air!
with the new
OASIS Air Drier
REDUCES HUMIDITY
As nationally advertised in BETTER HOMES & GARDENS, HOUSE BEAUTIFUL and HOUSE AND GARDEN!
OASIS

Now—in time for the humid season—get this money-making, nationally advertised OASIS Electric Air Drier! Oasis dealers last year sold thousands on the basis of a simple "try-before-you-buy" home demonstration. They actually *demonstrated* how this sensational drier removes up to three gallons of water every 24 hours, from the average-sized room with high humidity—sold 9 out of 10 demonstrations!

In 1951 this sound selling technique will be backed up by regularly scheduled national consumer advertising in such popular magazines as BETTER HOMES & GARDENS, HOUSE BEAUTIFUL and HOUSE AND GARDEN, that reach millions of home-makers with a powerful story of new home comfort. A complete program of merchandising is planned to tie *you* into this nation-wide "free home demonstration" offer.

Write today for Money-making Facts

No wonder there's a terrific demand for a product like this! Plugs in any electrical outlet . . . no chemicals. Ends damp basements, odor, mold, mildew, rusting, dripping overhead pipes, sweating walls . . . Protects books, furniture, rugs, tools, clothes, machinery, etc., from damage by moisture and mildew . . . Makes basement living a pleasure—for laundering, cooking, working, playing.

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What's New

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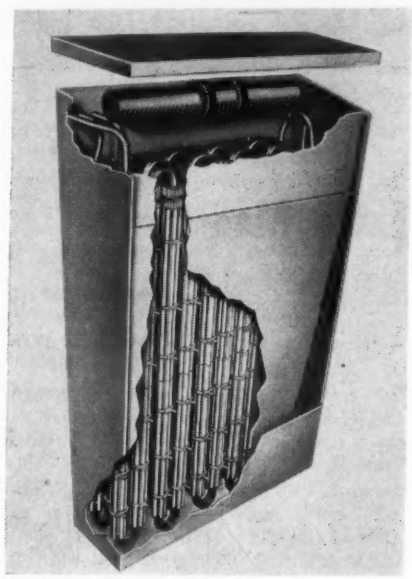
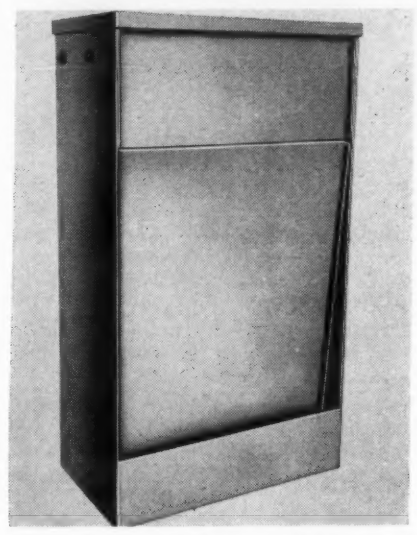
B. S. Williams Oil Cooler for Use on Machine Tools



Cutaway view of B. S. Williams Will-Cool oil cooler.



Oil cooler has removable inspection cover designed so that periodic checks can be made without disconnecting oil lines. Thus lubricating and hydraulic oils are not exposed to the atmosphere.

—KEY NO. A-431—

MT. VERNON, N. Y.—To cool and control cutting oil to a predetermined temperature the year-round, the B. S. Williams Co., Inc. here has developed a new oil cooler for use on machine tools.

B. S. Williams, president of the company, claims that his Will-Cool oil cooler, will not only maintain normal production of the machine tool, but can remove heat and control temperature up to the full capacity of the prime movers allowed by a machine tool manufacturer. The time cycle can be increased within the possibility of adjustment, he further said.

The cooler can also be supplied to control the lubricating or hydraulic oils to the desired temperature at the same time as the cutting oil is cooled.

The lubricating and hydraulic oils are not exposed to the atmosphere while being cooled.

Another feature of the cooler is that the inside and cooling surface can be inspected and cleaned by maintenance men without disconnecting the refrigerant or oil lines. Even the inspection cover is removed without disconnecting these lines, Williams stated.

Accumulation of fine metal particles is restricted to a non-cooling surface where they can be seen and removed.

Only the normal low head, low horsepower, open impeller pump is required to lift the oil to the top of the Will-Cool oil cooler. The oil is confined to the cooling surface in a film and flows by gravity over the surface and back to the machine tool's tank.

The Will-Cool's thermostats are of proper range and are not affected by shop temperatures, Williams declared.

A developed expansion valve prevents overloading and allows the use of high speed or low speed refrigerant compressors.

Compressor oil separators or refrigerant interchangers are not required in the circuit, he claimed. Refrigerant liquid does not feed to the cooler during the off-cycle, causing refrigerant liquid pumping at the start.

The Will-Cool oil cooler will cool all machine tool oils within their range of viscosities so that different oils may be selected if desired without affecting the operation of the cooler, Williams asserted. The size range is from 1½ to 7½ tons.

A simple method of calculating refrigerant capacity required for machine tools has been developed so that the Will-Cool oil cooler size will be large enough to control the temperatures in mid-summer after the machine has been increased to maximum capacity, according to the manufacturer.

Williams is known in the industry as the inventor of the Chrysler Airtemp packaged 3 and 5-hp. air conditioners and panel-type refrigerating and air conditioning units. He also has been active in the development of temperature control for industrial machines and in railroad air conditioning.

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Welch Air Circulator Designed for Home Use

—KEY NO. A-432—

CINCINNATI—A new, lightweight Air-Flight circulator with increased cooling capacity and versatile directional air flow has been introduced by the W. W. Welch Co.

Primarily designed for home application, the new electric fan may also be used in offices and located on desk, floor, wall, or window.

A swivel base permits the air circulator to be turned in a 180° arc thus providing cool air intake or hot air exhaust with a twist of the wrist. Knobs on either side adjust the fan to the desired angle and it may be placed on the floor for upward air direction. The base is slotted for wall hanging.

With each fan, simple, easy-to-use base plates are provided for slip-in mounting for window installations.

Air is directed through the blades by means of streamlined front and rear grilles plus louvers on both sides. The deep pitched blades take bigger bites of air.

Noise is eliminated through a new "floating power" motor mounting. The motor is guaranteed for five years against mechanical and electrical defects.

The new fan's color, light grey, is molded into the plastic that comprises the main housing and cannot chip, peel, or curl. Blades are made of aluminum and will not rust.

The over-all circular shape blends neatly into any style of interior decoration while it may be easily moved by its permanently attached handle since it weighs less than 10 lbs. A switch in the base offers three speeds for air control.

Information Center

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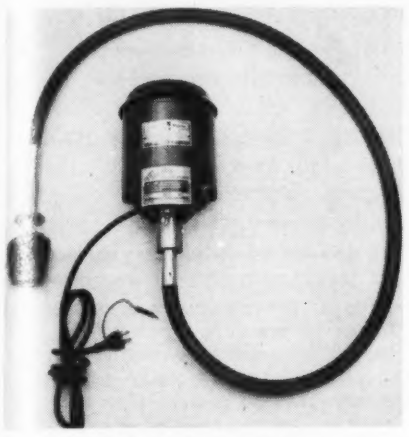
What's New (Cont.)

Barton Introduces Heavy-Duty Scrubber For Use on Pots and Pans



——KEY NO. A-433——

DEFIANCE, Ohio — The "Lazy Boy" motorized scrubber and polisher for pots and pans has been remodeled and improved for heavy-duty work, J. P. Barton, president of Barton Products, Inc. here, announced recently.

Barton said that the brushes have been standardized so that all brushes clean on the ends too. They will clean anything from small utensils to the largest pots and cookers, he declared.

A 3-in. diameter fibre brush is furnished as standard equipment with the unit. Other brushes of bronze wire and nylon and accessories can be purchased for the unit to meet other cleaning problems.

The brushes are used under the same conditions as a scrub brush. For ordinary scrubbing, a little scrubbing powder on a damp surface will give polished results, he said.

A polarized or grounded plug is furnished on the cord so that if installed according to good electrical practice, there is no danger of a shock even on wet floors, Barton asserted.

The pot and pan washer is powered by a ¼-hp. motor of 110 volts, 60 cycle. Six feet of industrial flexible shaft is provided.

Institutional price of the washer is $95. Extra brushes sell at $10.80 for fibre, $14.50 for bronze wire, and $17.60 for nylon.

Barber-Colman Regulator Has 1 Adjustment

——KEY NO. A-434——

ROCKFORD, Ill.—A self-contained temperature regulator with a clearly marked, calibrated, adjusting dial to give exact setting in degrees Fahrenheit has been announced by the Barber-Colman Co. here.

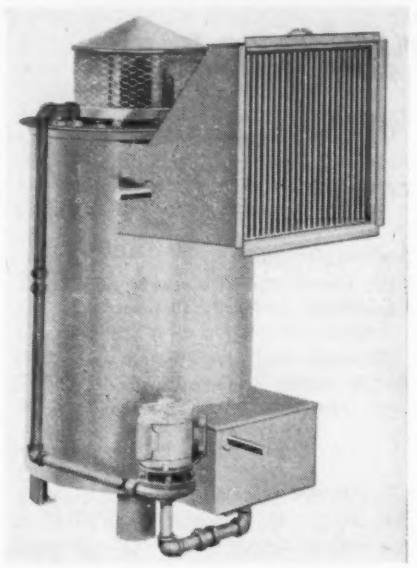
Only adjustment required is the setting of the desired temperature on the dial.

All of the regulators are shipped completely assembled, the company said.

Wiring is a two-wire connection to any 115 volt or 230 volt a.c. circuit.

The regulator is available in ½ in. through 4-in sizes in two styles, it is reported.

Barber-Colman self-contained temperature regulator has dial which requires only the setting in Fahrenheit degrees.



Drayer-Hanson Introduces Wat-R-Miser Condenser

——KEY NO. A-435——

LOS ANGELES — A low-tonnage evaporative condenser for small air conditioning and commercial refrigeration applications called the "Wat-R-Miser, Series O," has been introduced by Drayer-Hanson, Inc. here.

Made in four sizes, the Series O is a compact, completely factory assembled unit. The manufacturer says that the unit's design does away with lengthy shaft, bearings, belts, drives, and supporting superstructure.

The housing is hot dip galvanized inside and out after fabrication. Coil is all copper prime surface "pitched tube."

Construction of the eliminator enables the unit to be mounted against an outside wall with no need for ducts, the manufacturer said. Spray section is easily serviced from the outside.

Direct drive axial flow fan assembly is located in the dry air stream. It is also removable for servicing.

Pump is the unit type with separate motor. Float assembly is situated in the external sump. Refrigerant, water, and electrical connections are all readily accessible.

Spencer Disc Thermostat Designed for Immersion

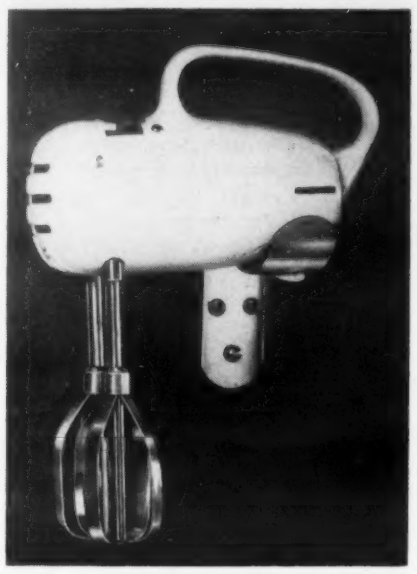
——KEY NO. A-436——

ATTLEBORO, Mass. — Spencer Thermostat Div. of Metals & Controls Corp. has introduced its new thermostat C4371, designed to provide a snap-action disc type thermostat for immersion use where external surface temperatures do not follow closely enough.

The disc housing is solder sealed on the end of a bronze body casting having 1 in. I.P.S. male thread for mounting in a tapped hole.

The electrical switch has a beryllium-copper spring switch arm and fine silver contacts mounted on a molded insulator. The switch can be made single or double throw, single pole. Electrical rating is 10 amperes 30 volts d.c. and 125 volts a.c. and 8 amperes 250 volts a.c.

Temperature settings are factory pre-set to the temperature desired and are fixed, that is, non-adjustable. Differential between opening and closing temperatures may be anything desired from 15° F. up, it is pointed out.



Iona Portable Mixer Has 2 Removable Beaters

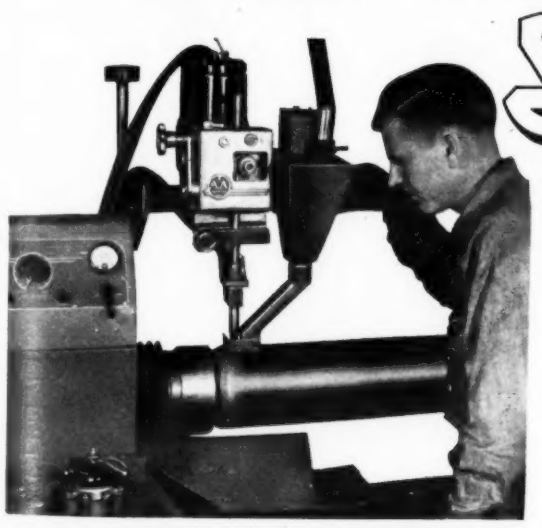
——KEY NO. A-437——

EAST HARTFORD, Conn. — A portable food mixer that operates on either a.c. or d.c. current has been introduced by the Iona Mfg. Co. here. Called the "Mixall," the unit has two full-size removable beaters and operates at two speeds.

The mixer is finished in white baked enamel and sits on a chrome plated wall bracket when not in use. The unit is priced at $15.95, including tax.

600 AMP. SUBMERGED ARC WELDER

Welds elliptical ends on shells of



STANDARD

RECEIVERS and CONDENSERS

Submerged arc welder and fixture for periphery welding. Capacity cylinders to 20" O.D., 72" length. Arc submerged in mound of flux with no glare to operator. Cylinder rotated by fixture at predetermined speed. Welding clean, spatter-free.

Automatic submerged arc welders are used by STANDARD to weld dished elliptical heads to cylinders in the manufacture of pressure vessels. Over thirty years of experience and know-how plus the latest of modern equipment are the reasons for STANDARD leadership in the manufacture of heat transfer equipment, and for the splendid performance STANDARD products have been giving in every State of the Nation for many years.

In addition to submerged arc welders, STANDARD facilities include heliarc welders to 600 amp., and projection, seam, spot and resistance welders to 200 Kva.

Production facilities are available for the prompt and experienced handling of Government orders.

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FACTORY: 3535 W. FILLMORE ST., CHICAGO 24

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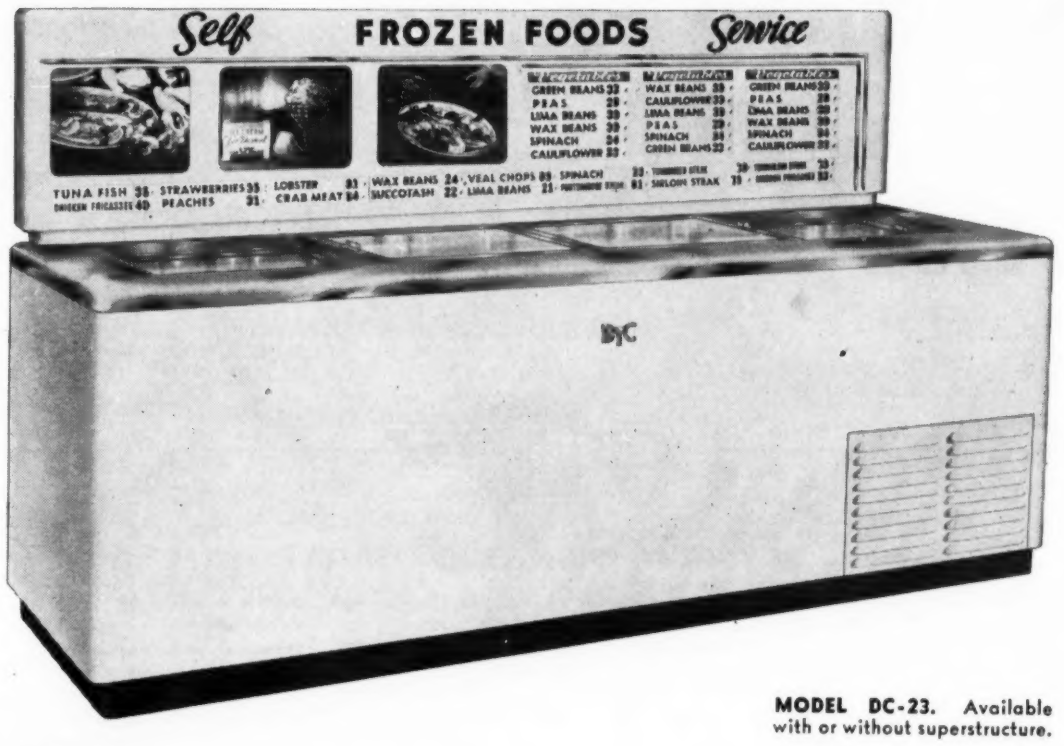
Self FROZEN FOODS Service
GREEN BEANS 32
PEAS 29
LIMA BEANS 30
WAX BEANS 30
SPINACH 24
CAULIFLOWER 33
WAX BEANS 29
CAULIFLOWER 29
LIMA BEANS 29
PEAS 29
SPINACH 24
GREEN BEANS 22
GREEN BEANS 30
PEAS 29
LIMA BEANS 30
WAX BEANS 30
SPINACH 24
CAULIFLOWER 33
TUNA FISH 35
CHICKEN FRICASSEE 40
STRAWBERRIES 35
PEACHES 31
LOBSTER 81
CRAB MEAT 84
WAX BEANS 24
SUCCOTASH 22
VEAL CHOPS 89
LIMA BEANS 23
SPINACH 23
SHOESTRING POTATOES 10
SHOESTRING POTATOES 10
SHOESTRING POTATOES 10

Low Temperature Systems

Factors In the Design, Selection and Servicing of Such Equipment

1. Single-Stage Refrigeration Systems Producing to —50° F.

This series of articles by Mr. Lopiccolo on low-temperature refrigeration covers the following ground:

Single, two and three-stage refrigeration applied to low-temperature applications, with discussions of the principles involved in each type, and advantages and disadvantages of each type.

Service problems that are somewhat peculiar to these various types of systems.

Applications in which low-temperature refrigeration has a definite function. This covers many fields related to the defense effort.

This first article discusses the growing use of low-temperature refrigeration generally, and also covers single-stage systems as applied to low-temperature work.

By Thomas Lopiccolo, Vice President, Bowser Technical Refrigeration, Division of Bowser, Inc.

During the years preceding World War II, there was some research and testing and development done with regard to low temperature; however, it was not until the beginning of World War II that increased knowledge of lower and lower temperatures was obtained. This, together with the terrific impetus given to the aircraft industry by the needs of war, resulted in a need for refrigeration equipment to produce lower temperatures than had heretofore been thought possible.

During the war, temperature requirements were found to be considerably lower than -40° F. and towards the end of the war, temperature requirements of -100° F. were not uncommon. Ordinary single-stage refrigeration systems which had previously been made to operate satisfactorily to temperatures of -10° or even -20° were pushed a little further to produce temperatures of -40°. This was believed to be the maximum for single-stage refrigeration due to the abnormal operating conditions of head pressure and suction pressure.

The resulting high compression compression ratios on ordinary commercial machines were found to be such as to present uneconomical operation to temperatures of -40° or even -50° F.

It was during this period that a need for multistage refrigeration of one form or another to produce lower temperatures was placed upon the refrigeration industry's engineers. Up to this time, any temperature requirements below -50° F. were satisfactorily produced in the laboratories by the use of liquid air or dry ice.

During this period of time, a demand was placed upon the industry to produce, by means of mechanical refrigeration, systems including compressors and condensing units to produce low temperature refrigerating effect without the use of these expendable materials such as liquid air or dry ice. As was explained above, there have been, from time to time, many multistage systems placed into operation, but these were single installations, which were individually engineered, costing considerable sums of money in research and trial and error.

In order to meet the demands of industry, it was necessary to produce multistage systems which could be easily reproduced and whose performances could be predicted, calculated, and guaranteed. It was not only a problem to design compressors for this low temperature application, but it was also necessary to obtain new refrigerants, new lubricating oils, new expansion valves, and new manufacturing techniques in order to produce a satisfactory system.

Out of this research and study came what is now known as multi-stage refrigeration of two distinct types. One is two-stage and three-stage compound refrigeration and the second is known as cascading. These will be discussed individually together with single-stage operation at a later point in this discussion. A brief statement, here, as to the difference between multistage compound compression as against cascading will clarify the problem as we approach it.

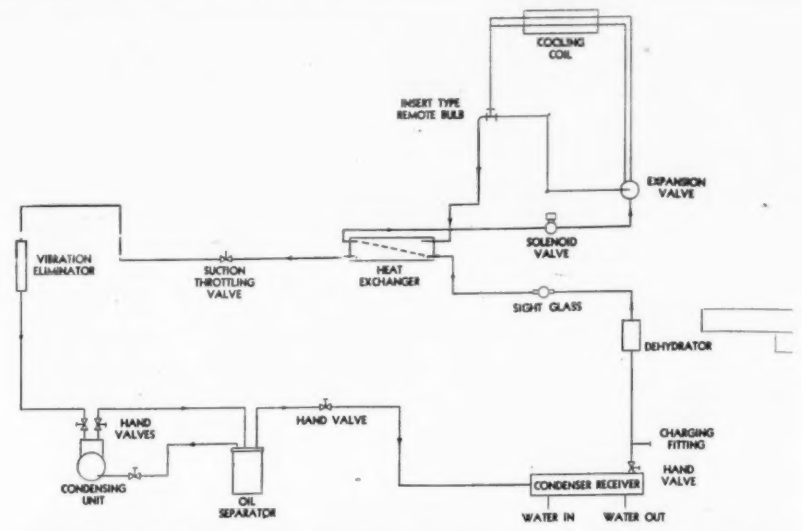

Fig. 1—Piping diagram for single-stage low-temperature refrigeration system.

How the Systems Differ

In compound compression, the same refrigerant is handled throughout all pressure stages from the evaporator through the first and second stages of compression and then through the condenser. In this manner, the same refrigerant passes through the expansion valve and is completely recirculated throughout the complete cycle.

In the cascade system, we have individual, single-stage systems wherein the first stage is condensed by the evaporator of the second stage and the second stage discharge is condensed with the cooling water. This system as well as the compound compression system is infinite in the number of stages of compression, but the limitations resolve themselves to high initial cost, limitations of available refrigerants, and economics of investment.

Due to improved techniques in the manufacture of compressors, wherein closer clearances were possible and improved designs of suction and discharge valves as well as the selection of better materials, the condensing units themselves now provide greater volumetric efficiency. Also, they require less horsepower per ton, which is a function of friction within the machine.

As a result of this improved design in manufacture, single-stage refrigeration has been economically used producing temperatures as low as -50° F., and according to normal and standard design, this represents a refrigerant temperature of approximately -60° F. This is economically possible only by the use of water-cooled condensers and "Freon-22" as the refrigerating medium.

A typical example of a single-stage system as applied to low temperature is shown in Fig. 1. It is interesting to note the installation of an oil separator in the discharge of the compressor between the compressor and the condenser. This is vital to low temperature installations because it is desirable to minimize the amount of oil circulated through the evaporator.

It is known and it is proven that oil in evaporators separates during the off-cycle of the refrigerant: the refrigerant boiling off into a vapor. The oil remains on the inner surfaces of the evaporator and since it is subjected to extremely low temperatures, it materially affects the over-all coefficient of heat transfer. Also, any oil transferred from the compressors to the evaporator means a shortage of oil in the crankcase of the machine and this would eventually mean failure due to the lack of lubrication.

Oil separators, even though they are not 100% efficient, still remove a considerable quantity of oil from the refrigerant and any oil that is removed by the separator means just that much less accumulated in the evaporator.

Expansion Valve Requirements

Another interesting point to be noted is the use of an insert type remote bulb for the expansion valve. It is simple to see that when low temperatures are being produced, the pressure-temperature relationship of the refrigerant is also duplicated in the charge of the power assembly of the expansion valve. In other words, at lower temperatures, a small change in pressure results in a large change in temperature and conversely it requires a large change in temperature of the remote bulb to effect enough pressure change in the power assembly of the expansion valve to open and close according to superheat settings.

As a result, it is necessary that the bulb be responsive as possible to the changing temperatures of the gas in the suction. It has been found that there is too much lag in thermal conductivity if the bulb is clamped to the suction line whereas it is considerably more responsive if it is inserted with the refrigerant stream.

It has also been found necessary to use specially charged power assemblies for extremely low temperature work. It is desirable to use a gas charged power assembly which is charged with a gas whose pressure-temperature characteristics are higher for the given temperature than the refrigerant being used in the system.

It is not uncommon to find that "Freon-12" expansion valves are charged with "Freon-22" in the power assembly and that expansion valves to be used on "Freon-22" are charged with propane in the power assembly and, today, expansion valves are being developed for use with Ethane and some of the newer "Freon" refrigerants with cross charging on the power assembly still being necessary.

One of the important considerations when discussing either single or two-stage systems is that the evaporator should be free-draining at all times. This will be discussed more thoroughly, but it is pointed out here in order to impress upon the refrigeration engineer the necessity of keeping oil out of the system.

Every refrigeration service engineer would certainly not have any fears about servicing a low temperature unit if he found that it was a single-stage system since single-stage systems are common everyday items.

There is little difference between a walk-in room which is refrigerated to 38° F. with a single-stage compressor as compared to a walk-in room refrigerated to -40° F. by means of a single-stage refrigeration machine. The approaches to the problems are identical, the solutions to the service and maintenance problems are the same, the only difference is in the temperature operating level of the room itself.

Another advantage of single-stage refrigeration for low temperatures even though they are limited to -50° F. is that commercial machines can be used and replacement parts are available throughout the country with certain exceptions such as special lubricating oils for the compressor.

Among the disadvantages to the use of single-stage refrigeration are the low over-all efficiency. That is, it requires a large compressor with large horsepower to produce small tonnage refrigerating effects at low temperatures and low back pressures. High compression ratios cut down the volumetric efficiency considerably and it is interesting to note how this affects the selection of condensing units.

The following information is approximate and is used for reference only. A 10-ton condensing unit, that is, 10 tons capacity at 40° refrigerant delivers approximately one ton at -40° F.

In other words, there is involved a terrific investment in condensing unit and motor equipment for producing rather small tonnages at these low temperatures. Although we have just previously stated that one of the advantages was the use of commercially available refrigerants, by the same token, we are limited to just those two refrigerants.

(To Be Continued)

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NEW 1951 CHEVROLET *Advance-Design* TRUCKS

These new 1951 Chevrolet trucks are tops in value. They're tough and rugged. They're loaded to the brim with power. They're thrifty . . . move massive loads . . . handle like no other truck. Chevrolet's latest haulers have 51's finest new features, too. Features like new, super-effective brakes that are extra-safe and easy to operate. Features like Chevrolet's Dual-Shoe parking brake, Chevrolet's new Ventipanes and new cab seats that bring you comfort with a capital "C." Visit your Chevrolet dealer and look over these great new trucks. You'll find the right truck for *your* job!

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TWO GREAT VALVE-IN-HEAD ENGINES—the 105-h.p. Loadmaster or the 92-h.p. Thriftmaster—to give you greater power per gallon, lower cost per load • POWER-JET CARBURETOR — for smooth, quick acceleration response • DIAPHRAGM SPRING CLUTCH—for easy-action engagement • SYNCHRO-MESH TRANSMISSIONS—for fast, smooth shifting • HYPOID REAR AXLES—for dependability and long life • NEW TORQUE-ACTION BRAKES—for light-duty models • PROVED DEPENDABLE DOUBLE-ARTICULATED BRAKES—for medium-duty models • NEW TWIN-ACTION REAR BRAKES—for heavy-duty models • NEW DUAL-SHOE PARKING BRAKE—for greater holding ability on heavy-duty models • NEW CAB SEATS—for complete riding comfort • NEW VENTIPANES—for improved cab ventilation • WIDE-BASE WHEELS—for increased tire mileage • BALL-TYPE STEERING—for easier handling • UNIT-DESIGN BODIES—for greater load protection • ADVANCE-DESIGN STYLING—for increased comfort and modern appearance.

Servicing Hermetics In the Field

Servicing Hermetics In the Field is a new series intended to show servicemen what they can do (and also what they shouldn't do) to repair hermetic units in the field.

There are certain repairs that can be made on the job if the serviceman diagnoses the trouble properly and knows how to fix it. This series of articles will explain just what he can do and how he should do it. Other troubles encountered with hermetics call for replacement or complete overhaul and cutting open the unit. The latter requires a specialist with a fully equipped shop. This series, however, is aimed at the average serviceman using ordinary tools.

The author owns and operates a large hermetic rebuilding plant and recently spent six months in Israel setting up the world's largest independent hermetic rebuilding plant.

The first instalment discusses the most common complaint received on hermetic units: "The refrigerator defrosts part of the time, but not all the time."

* * *

Most Common Service Complaint on Hermetics

By Arne Perttola, Owner and Manager,
Brighton Hermetic Service, Detroit

Complaint:

Refrigerator defrosts part of the time, but not all the time.

Possible Causes:

1. Defective relay.
2. Low voltage during certain periods.
3. Poor air circulation.
4. Defective check valve in unit.

Remedies:

1. DEFECTIVE RELAY

A defective relay will probably test your patience if it cannot be opened so the contacts can be seen. Not all relays can be opened in the field, but several types can be easily snapped open.

If you get the relay open, look at the starting contact points. If the points are white, the relay is still in good shape. Then check for causes 2, 3, or 4. However, black or dirty looking points indicate that the cause of the trouble probably is the relay. (See Figs. 1 and 2.) It should be replaced.

Filing or sanding the dirty points of a relay is not recommended, for this will clear up the trouble for only a short period. A special alloy is used on the surface of the contacts to prevent sparking or fusing, but the coating of the alloy is very thin. Filing or sanding will remove what little coating may be left, so there'll be a call-back in a short time.

If the relay is defective it should be replaced. If this isn't done, or the unit disconnected, the unit will probably burn out sooner or later.

Where the relay is of the type that can't be opened to inspect the contacts, the following should be checked before the relay is replaced: air circulation, low voltage, defective check valve.

2. LOW VOLTAGE

Low voltage is quite common in old neighborhoods. If the unit does not get at least 100 volts, it will fail to start at times. This you will have to catch just as it fails to start, for quite often by the time the serviceman arrives, some other electrical appliance which had been on the line has been turned off and the low voltage condition no longer exists.

Questioning the user and the building tenants may help in locating the cause of the low voltage condition.

3. POOR AIR CIRCULATION

Poor air circulation due to a dirty condenser or not having the proper air baffles will cause the unit to defrost during periods of high temperature at the location of the unit. A thorough check of the air path around the condenser will usually show how this probably can be eliminated. When air baffles are missing or are out of place, particularly with Coldspots, the unit will overheat and lose its efficiency.

4. DEFECTIVE CHECK VALVE

A bad check valve in a rotary or vane-type compressor will prevent the unit from starting every time. This often is the cause of occasional defrosting because the check valve will close properly several times and then stick open.

Starting and stopping the unit a number of times will help in determining if the check valve is the cause of defrosting.

If the suction line starts to heat up and the heat keeps working toward the evaporator, it indicates that the check valve is defective. The unit should then be sent to a properly equipped hermetic repair shop so the check valve can be repaired or replaced. This type of repair cannot be properly done in the field or in an inadequately equipped shop.

(To Be Continued)

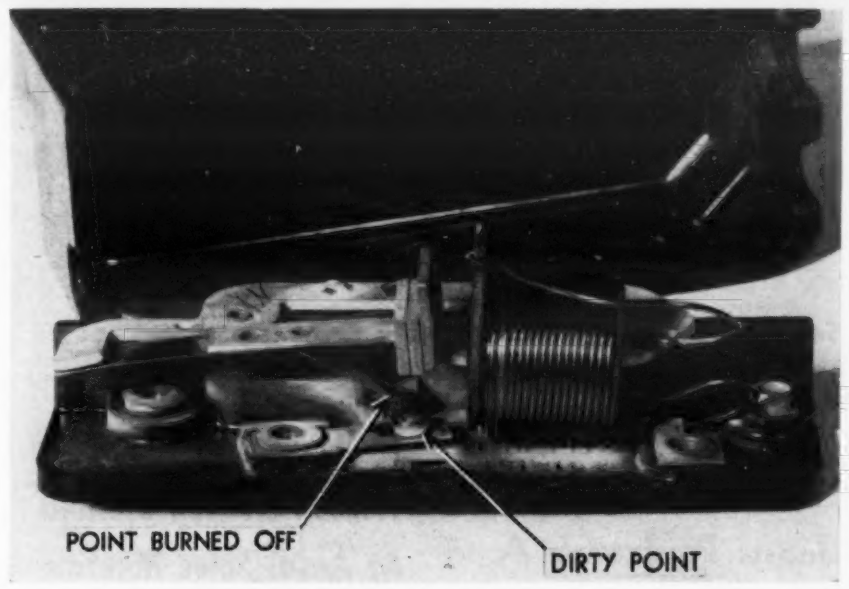


Fig. 1 shows a typical magnetic relay (G-E) with cover removed. Subjected to hard usage, the points of a relay will become dirty or even burn off, thus causing service trouble with a hermetic unit.

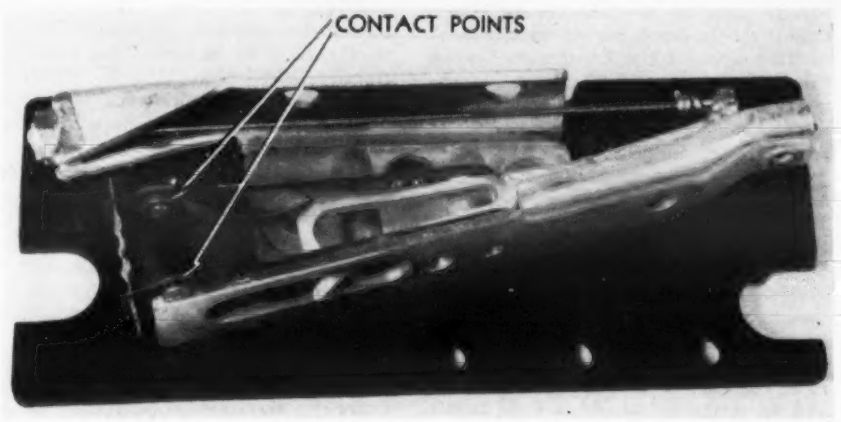
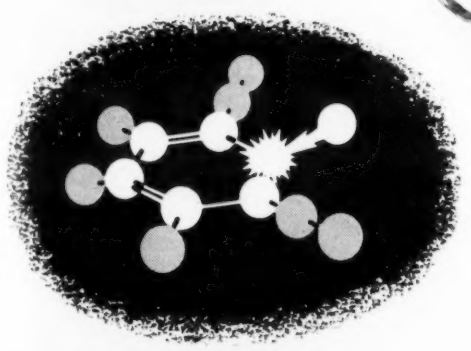


Fig. 2 is a typical (Delco) "hot wire" type relay used with hermetic units. Starting and overload protector contact points are indicated.

THESE WON'T SPLIT

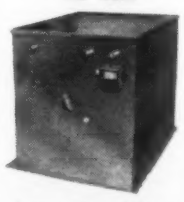


heat-x CAST ALUMINUM LIQUID COOLERS

for Water

for Beer

for Soda


heavy duty Water

No more split tubes due to freezing. Heat-X engineers were determined to design a non-split cooler . . . a cooler that *couldn't* split. Casting liquid and refrigerant coils in a compact aluminum block was the answer. The result . . . a better cooler, lower in cost, easier to install and service with *more profit* for you. Investigate the Heat-X line today.

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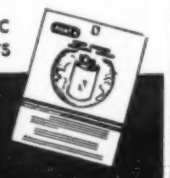


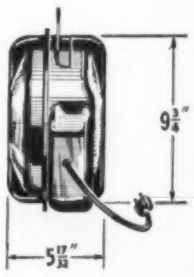
THE HEAT-X-CHANGER CO., INC.
BREWSTER, NEW YORK

THE TECUMSEH COMPACT

The Ideal Hermetic Motor Compressor for Limited Space Applications

WHERE limited space is a problem, look to the Tecumseh Compact for the perfect answer. Only 9¾" high, only 5 17/32" thick, it permits *increased* food storage space, with *no increase* in cabinet dimensions. . . . The Tecumseh Compact is a single cylinder, 1/9th horsepower hermetic. In combination with various types of condensers and evaporators, the Compact will efficiently refrigerate systems ranging in size all the way from small apartment or trailer boxes up to regular domestic refrigerators—also many light commercial appliances. . . . Internal spring mountings, forced feed lubrication, automatic cylinder wall lubrication, and other famous Tecumseh engineering features assure smooth, quiet, long-lasting performance. . . . Write for literature.

For versatility of application the Tecumseh Compact has no equal. It may be suspended on the back of the cabinet or placed in a depression or offset in the cabinet liner, thus allowing the food storage compartment to be lowered practically to floor level. Result: *increased* storage capacity, *no increase* in cabinet size.



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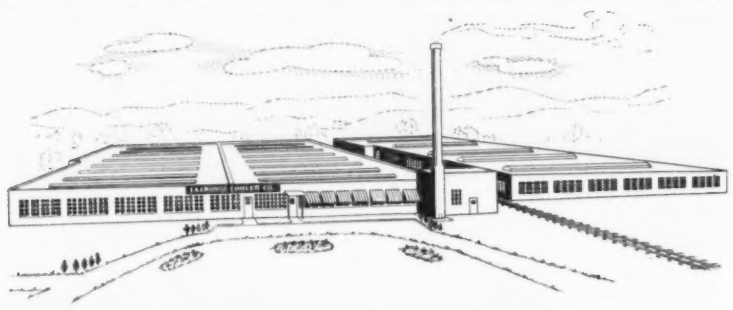
WORLD'S LARGEST

TECUMSEH PRODUCTS COMPANY
TECUMSEH, MICHIGAN
Export Dept., 2111 Woodward Ave., Detroit 1, Mich.
INDEPENDENT PRODUCER OF COMPRESSORS AND CONDENSING UNITS FOR THE REFRIGERATION INDUSTRY



Something New (50,000 Ft.) Has Been Added

FIFTY THOUSAND sq. ft. of space has been added to the La Crosse Cooler Co. plant by the addition shown at the right side of the drawing. This expansion will include a showroom.

La Crosse Cooler Annex Boosts Production Area, Provides Showroom

LA CROSSE, Wis.—Fifty thousand square feet of manufacturing space has recently been added to the production area of the La Crosse Cooler Co. plant here, the company announced recently.

The expansion has permitted the company to install additional metal preparation and cleaning equipment and a new paint spray department. New conveyor methods of production and assembly and the latest inspection equipment and methods are employed, the company said.

An enlarged department for research and product development has been instituted. A showroom has also been completed for the display of La Crosse products which include bottle coolers, ice cube makers, direct draw cabinets, mix coolers for frozen custard and ice cream, walk-in coolers, and milk coolers.

Midwest Rewa Schedules June Meeting In Denver

DENVER—A meeting of the Midwest Refrigeration Equipment Wholesalers Association will be held at the Albany hotel here June 22-23, it has been announced by J. F. Wickham, secretary.

The program for the June 22 session includes a meeting for members only in the morning, a noon luncheon for manufacturers' representatives and members, and a combination meeting in the afternoon.

11 Districts Represented At Ansul Sales Meeting; Educational Film Shown

MARINETTE, Wis.—The refrigeration sales division of Ansul Chemical Co. held its annual sales meeting March 27-29, with 11 district managers and agents gathering at the company's home office here for the three-day session.

Highlights included the premiere showing of a new educational film on refrigeration, short talks on successful sales techniques by each of the district managers and agents, and a humorous skit on management's need for accurate sales estimates—the cast composed of Ansul executives.

Vice President L. C. McKesson and Refrigeration Sales Manager G. B. Vermilye handled arrangements for the sales meeting.

Edgar Morris Sales To Distribute UsAirco Line

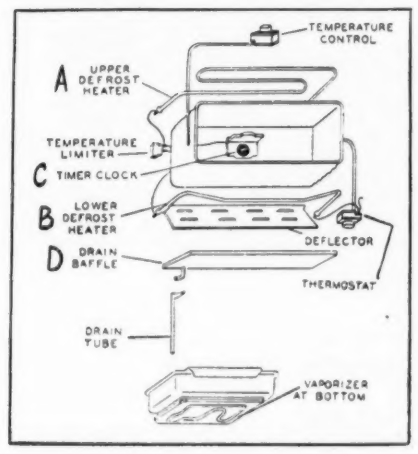
MINNEAPOLIS — Edgar Morris Sales Co., Washington, D. C., has been appointed a distributor by United States Air Conditioning Corp. for window units, consoles, and store conditioners.

The sales organization, headed by Edgar Morris, president, and George Kindley, vice president, has been active as an appliance distributor for a number of years and has recently expanded its commercial refrigeration and package air conditioning department under the direction of Thomas Shotton, Jr.

SLANTS on Service

"Slants on Service" is a new "package" devised by the NEWS to meet the needs of its busy readers in the service and contracting business. These helpful hints and suggestions for improved service methods and shortcuts have been assembled in capsule form for easy reading.

Philco Defrost System Uses Automatic Electric Heaters



Automatic defrost system employed in Philco "Advanced Design" Duplex 1951 refrigerators consists of two rod-type electric heaters controlled by a time clock. The defrost hookup is independent of refrigerating system so the refrigerator will continue to operate in normal manner if defrost system fails.

One 100-watt heater is located above freezer compartment, while the other 750-watt heater is directly below the evaporator. Timer clock shuts off compressor and turns on heaters once every 24 hours at 2 a.m. for a short time. Defrost water and ice collect in drain baffle beneath evaporator, which funnels the water into a jar. The jar usually fills about once a week in summer and once every three to four weeks during winter.

The wire shelf placed at the bottom of the evaporator is intended to keep frozen foods from direct contact with the evaporator bottom. This prevents raising the temperature of the frozen food during the short defrost cycle.

Use Care In Applying Flux for Brazing Joints

When using a silver solder that requires a flux, be careful in applying the flux or a poor joint may result.

In brazing a tube to a fitting, for example, after making the usual preliminary preparations insert the tube about two thirds of the way into the fitting. Apply flux to the exposed surfaces. Then bottom the tube and braze.

This prevents too much flux getting into the joint but insures that enough will be there to make a good joint.

A Simple Way To Replace Refrigerator Door Gasket

To make sure the refrigerator door liner and door gasket will be in line after replacing the gasket, the following method has been successfully used in the field:

Remove the screws from the top of the inner door liner and take out also the top three or four screws on each side of the liner. Take out the old gasket from the top and put in the new one. Then replace the screws and tighten them.

Screws from one side of the panel are next moved and the gasket replaced on this side. Tighten screws on this side and then repeat steps on other side. As the final step remove screws from bottom of panel and replace gasket there, inserting and tightening screws.

J. S. Smith To Direct Wagner Electric Buying

ST. LOUIS—Appointment of J. S. Smith as director of purchases, and establishment of six buyer groups in the purchasing department have been announced by Wagner Electric Corp. here.

J. S. Smith

Smith has been associated with Wagner Electric for the past 32 years. He went to work in the company's research department in 1919, after graduating from high school.

During the next five years, Smith worked his way up to foreman in charge of testing intermediate motors, and at the same time attended night classes at Washington university in St. Louis. He received his Certificate of Electrical Engineering in 1924, and the same year was transferred to the sales department.

From 1926 to 1936 he was a field engineer for the company, first at Detroit, then at Toledo, and finally at Pittsburgh. In 1936 he was appointed a special representative to the steel industry, with headquarters in Pittsburgh. He held that position until 1942, when he returned to St Louis as manager of the industrial sales department.

The company said the six buyer groups were established by Smith "in order to further improve the operating efficiency of the purchasing department." The groups were set up as follows:

Group 1—R. Bader, castings; group 2—E. K. Raemdonck, copper; group 3—M. H. Snelling, steel; group 4—J. E. Roth, automotive component parts; group 5—M. W. Cox, electrical component parts; group 6—E. T. Pound, maintenance and supplies.

The first three groups constitute the metals division and are under the supervision of H. S. Garrett, manager of the division. Groups 4, 5, and 6 are directly supervised by E. V. Zimmerman, assistant to J. V. Christman, purchasing agent.

In addition to the actual placing of orders, each group is responsible for following up and expediting deliveries.

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speaking about

TRADE-INS

is a spiffy new 24-page booklet just published by the NEWS. It presents you with some fresh, dandy ideas on how to help eliminate one of your perennial bugaboos, the "trade-in" problem.

The whole problem is divided into three categories and some sound, sensible methods on how to deal with each category are described. 1. Acquiring the "trade-in" and determining its worth. 2. Reconditioning the "trade-in." 3. Marketing the "trade-in."

The whole contents of this booklet is compiled from the best articles on and experiences of other appliance dealers whom the NEWS has talked to in the past year. These ideas are actually used successfully and perhaps they would work as well or better for you. At least you can read about them and see how they fit in with your operation.

The booklet sells for 50¢ a copy. Order now! Use this coupon.

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ONE of the new 10-cu. ft. refrigerators featured in Coolerator's 1951 line.

Coolerator Line--

(Concluded from Page 1, Column 5)

the full width Chill-R-Ator located directly under the freezer; "flavor-saver" cold in the general food compartment, and mist cold in the full width Crisp-O-Lators.

The freezer compartment is equipped with a separate fast-freezing shelf extending the width of the compartment for ice cube trays.

Below the Chill-R-Ator shelf is a glass covered meat drawer which also extends all across the box.

Unichrome shelves are used in the general food compartment. A center shelf is adjustable. Both models provide 21 sq. ft. of shelf area and have three shelves included in the full-length door.

The RD-1104, in addition to the door shelves, has a butter tray mounted on the inner door panel. Shelves in this model are chrome trimmed and include a tilt-up, half-shelf to allow extra space for tall containers.

A sliding snack-basket provides drawer-storage for small, seldom used items. This model includes an extra "Plastray" ice cube tray to make 12 individual or six double ice cubes.

In both models, the cabinets measure 28 in. wide, 57 in. high, and 31 in deep. Vertical door latches are used.

Breaker strips on the RD-1104 are gray while those on the RC-1103 are pastel blue-green.

The three other "supplementary" refrigerators are an 8.2-cu. ft. builders' model (RB-182) with U-type evaporator and 12.4 sq. ft. of standard shelving, an 8.1-cu. ft. standard unit (RC-181) with 11.3 sq. ft. of shelf space, and an 8.1-cu. ft. deluxe model (RD-180) with 13.5 sq. ft. of shelf space.

The RC-181 has full-width freezer compartment, full-width meat drawer, and pastel breaker strips.

The RD-180 has a full width 25-lb. freezer compartment, "oversize" meat drawer and Chill-R-Ator, 16-qt. crisper, and gray breaker strips. Another feature of this unit is the adjustable chrome trimmed shelves.

All 24½-in. models are equipped with free-easy ice cube trays, have high bake du Pont Dulux finish, and are refrigerated by Tecumseh Zerolator compressors.

Conley indicated that the new line is designed particularly to fit the needs of the replacement market, which is claimed to be bigger this year than last.

"All models in the current line are space savers," Conley said, "designed to give big capacities in small cabinets, to fit into kitchen cabinet setups now occupied by the old pre-war 6 and 7-cu. ft. refrigerators.

"The line also lends itself to new, modern homes, where kitchens are smaller and more compact, where space is at a premium," he added.

Government Contracts

PROCUREMENT INFORMATION

The following is a list of proposed procurements issued by the various indicated U. S. Government procurement offices. This list is compiled and made available daily on a free pick-up basis. Prospective bidders may obtain complete bid sets by a request **to the purchasing office under which the purchase is listed** in this Synopsis. Be sure to identify completely the bid invitation you wish by including in your request the item description, the invitation number or reference number and the opening date. This will save time in filling your request. For reasons of economy, specifications are normally not included with the bid invitations unless the specification is a new one. First time bidders on a particular item should request a copy of applicable specifications and drawings at the time the request for a bid set is made.

DEPARTMENT OF DEFENSE

It is not necessary to refer solely to the issuing office for additional data on a bid invitation issued by any of the following U. S. Army Ordnance Offices: Ordnance Tank Automotive Center; Detroit Arsenal; Frankford Arsenal; Picatinny Arsenal; Raritan Arsenal; Rock Island Arsenal; Springfield Armory; Watertown Arsenal; and Watervliet Arsenal. Complete information on any purchase listed by any of those offices alone can be obtained from the Ordnance District Office nearest you. Its address is on file in your nearest Department of Commerce Field Office. Do not ask an Ordnance District Office for information on a purchase unless it is listed by one of the above-named offices. **Ordnance District Offices do not have information on any other purchases.**

Description	Quantity	Invitation No.	Opening Date
Commanding Officer, Naval Supply Depot, Mechanicsburg, Pa., Attn.: Code 778B			
Thermometers, Industrial And Dial, Various Ranges, To Various Govt. and Commercial Specs.	878 ea	71-22163	25 Apr 51
Commanding Officer, U. S. Naval Air Station, Corpus Christi, Texas			
Refrigerator, Electric, Household	5 ea	216-108-51	20 Apr 51
Officer In Charge, Navy Purchasing Office, Los Angeles, Calif.			
Valves	13,510 ea	155/9111	24 Apr 51
Valves	6,754 ea	155/9112	23 Apr 51
Valves	100 ea	155/145782	24 Apr 51
Valves	2,196 ea	155/9141	24 Apr 51
Commandant of The Marine Corps, Washington, D. C., Attn.: Supply Department, Procurement Section			
Valves, Bronze, Gate, ¾" Type 1, Class A, Federal Spec. WW-V-54	2,000 ea	1543	3 May 51
Valve, Brass, Gate, 1½" Milwaukee, or Equal	200 ea	1543	3 May 51
Commanding Officer, Marietta TC Depot, Marietta, Pa., Attn.: Central Procurement Agency			
Bender, Pipe and Rod	20 ea	306	4 May 51
Bender, Pipe, Portable	20 ea	306	4 May 51
Bender, Pipe, Hand	20 ea	306	4 May 51
Bender, Pipe and Bar	4 ea	306	4 May 51

GENERAL SERVICES ADMINISTRATION

Description	Quantity	Reference No.	App. Bid Date
Chief, Purchase Division, Federal Supply Service, General Services Administration, Room 528, U. S. Court House, 219 South Clark St., Chicago 4, Ill.			
Electric Water Coolers	96 ea	CHD-2003	4-25-51
Regional Information Officer, Region 3, General Services Administration, Washington 25, D. C.			
Filters, Air, Misc. Sizes	128 pcs	1062	4-23-51
Filter Sheets, 24½" x 24½" For Use In American Air Filter Unit NR NV5. 100 Sheets per Ctn.	50 carton	1065	4-24-51

U. S. DEPARTMENT OF COMMERCE

Description	Quantity	Reference No.	App. Bid Date
Chief, Procurement Section, National Bureau of Standards, 620 11th St., N. W., Washington 25, D. C.			
Combination Air Conditioning And Humidity Control Unit	1 ea	B-1-2434-51	4-16-51
Indicator and Recorder Displacement Measurements Automatic Temperature Control Co., Inc. Type or Equal	1 ea	B-1-2440-51	4-20-51
Furnish and Install Cooling System	1 ea	B-1-2414-51	4-20-51

DEPARTMENT OF AGRICULTURE

Description	Quantity	Reference No.	App. Bid Date
Department of Agriculture, Division of Purchase, Sales, and Traffic, Washington 25, D. C.			
Furnishing All Labor and Material to Provide Four New Controlled Fluctuating Temperature Storage Rooms and Other Related Work, Western Reg. Research Lab., Albany, Calif. Plans and Specifications $50.00 per Set		254-51 C	4-26-51

TENNESSEE VALLEY AUTHORITY

Description	Quantity	Reference No.	App. Bid Date
Chief, Materials Branch, Tennessee Valley Authority, Chattanooga, Tenn.			
Evaporators and Evaporator Preheaters	3 items	2-640369	5-2-51

CONTRACTS AWARDED AS OF APRIL 4, 1951

Description — Contractor and Address

Chicago Quartermaster Depot, U. S. Army, 1819 West Pershing Rd., Chicago 9, Ill.
Valves, aluminum—A-P Controls, Inc., Milwaukee, Wis.
Frankford Arsenal, Philadelphia 37, Pa.
Air Conditioning Unit—Willard Sales & Service, Inc., 2900 N. Broad St., Philadelphia 32, Pa.

Bush Elects Boling--

(Concluded from Page 1, Column 5)

ing field since his graduation from Massachusetts Institute of Technology in 1932.

First, he spent two years with Jackson & Moreland, Engineers in Boston. The next seven years were spent with Melchoir, Armstrong & Dessau Co. of Ridgefield, N. J., where he became vice president in charge of United States operation.

Boling left there in 1940 to start the Cecil Boling Co., engineers and sales agents for Bush. In 1945, Boling started the Heat-X-Changer Co. of Brewster, N. Y., an organization which sold products closely allied to the Bush line.

Boling is well-known in the refrigeration and air conditioning industry. He has been active in the American Society of Refrigerating Engineers, holding membership on the standards committee of that organization.

Steel Order Interpretation Bans Shift Of Quotas from One Product to Another

DETROIT—Further interpretations of the steel limitation order M-47 which cut refrigerator and appliance manufacturers' use of steel 20% by item in the second quarter, have confirmed the fact (as published in the April 2 issue) that manufacturers cannot divert their steel quota from one items to another.

The permitted quota for home freezers, for example, cannot be used to increase refrigerator production.

The order states that it "limits the use of such materials and parts in the manufacture or assembly of certain items." Then in List A appended to the order it specifies the items covered, and under the general heading of "Household Appliances, Household Machines, and Household Equipment" are the following items:

1. Cooking stoves and ranges.
2. Small electric appliances, including but not limited to: broilers; coffee percolators and urns; heating units for coffeemakers; hot plates and disc stoves; roasters; toasters; waffle irons; sandwich grills; cookers; casseroles; food mixers; juice extractors; drink mixers and whippers; hand and hair driers; vibrators; portable electric air space heaters; electric steam radiators; flat irons, including steam irons; and immersion heaters.
3. Electric fans, 16 in. and under.
4. Floor waxing and polishing machines.
5. Portable electric lamps.
6. Home laundry equipment, including but not limited to: clothes driers, gas and electric; mechanical ironers and mangles; and washing machines, electric and gasoline types.
7. Refrigerators, mechanical and ice, and cabinets for household refrigerators sold separately.
8. Home and farm freezers under 13-cu. ft. capacity, and cabinets for same sold separately.
9. Dishwashing machines.
10. Water softeners.
11. Automatic food and garbage disposal units.
12. Vacuum cleaners.
13. Carpet sweepers.
14. Packaged air conditioners (window and console) ¾ hp. and under.

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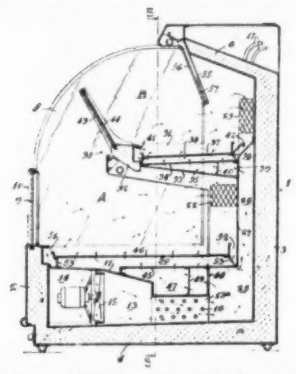
PATENTS *Weeks of Nov. 7 & 14*

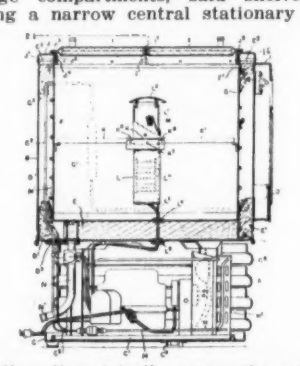
2,529,384. REFRIGERATED SELF-SERVICE DISPLAY CASE. David J. Greiling, Kendallville, Ind., assignor to McCray Refrigerator Co., Kendallville, Ind.



1. In a display case of the class described including a case with separate upper and lower open-top refrigerating zones, an air cooling and distributing system for said zones, having, in the base of the case below said zones, two side and an intermediate forwardly and rearwardly extending conduits in communication with each other at their forward ends, means for creating a forced circulation of air through said conduits with the air flowing in one direction through the intermediate conduit and in the other direction through the side conduits, refrigerating means for the air in its passage through said conduits, and means at the back of the case providing separate communication between the side and intermediate conduits with both said zones to cause a forced circulation of cooled air to each zone from certain of said conduits and a return of warmed air from each zone to certain other of said conduits.

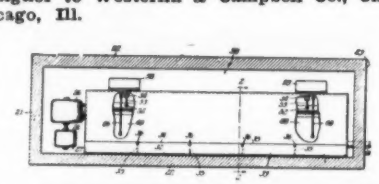
2,529,439. BOTTLE COOLER. Harland W. Whitmore, Kenosha, Wis., assignor to Motor Products Corp., Detroit, Mich.

1. In a refrigerator a top opening cylindrical cabinet, a plurality of shelves together extending across substantially the entire area of and dividing the space within said cabinet into upper and lower storage compartments, said shelves including a narrow central stationary shelf



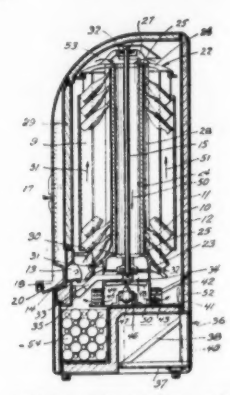
extending diametrically across the cabinet, and a pair of substantially semi-circular shelves on opposite sides of said stationary shelf adapted to swing upward to a position above and over the latter within the space of the upper compartment.

2,529,592. AIR CIRCULATING APPARATUS. John R. Boyle, Chicago, Ill., assignor to Westerlin & Campbell Co., Chicago, Ill.



1. In air circulating apparatus, the combination of an air supply duct for supplying air under pressure, a grille or discharge opening extending substantially longitudinally of said supply duct through which air is discharged into the room or other enclosure, a movable wall extending substantially longitudinally of said duct for controlling the volume of air flowing from said duct to said discharge opening, means coacting with said movable wall for causing it to be responsive to the static pressure in said duct, a thermal exchange conduit in said duct, temperature responsive means regulating the effective area of impingement of the air against said thermal exchange conduit prior to the issuance of the air through said discharge opening, a balanced damper valve controlling the volume of air flowing from said duct to said discharge opening, temperature responsive means for actuating said damper valve, and manually actuated adjusting means for adjusting the position of said damper valve.

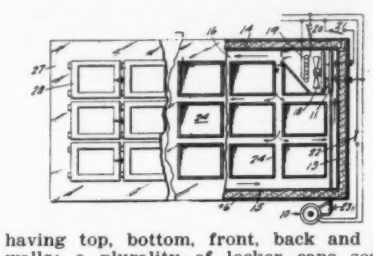
2,529,470. ARTICLE REFRIGERATION. Herman K. Johnson, Grand Haven, Mich., assignor to The Bastian-Blessing Co., Chicago, Ill.



1. An article dispensing cabinet comprising an insulated housing, a drum mounted for rotation therein having a conduit down through the center thereof, means for supporting rows of articles on the drum for discharge at one end of the drum, means for drawing air from the opposite end of the drum through said conduit, and means for refrigerating said air and moving the air over the outside of the drum from said other end to the first end, said moving means being located upstream of said refrigerating means.

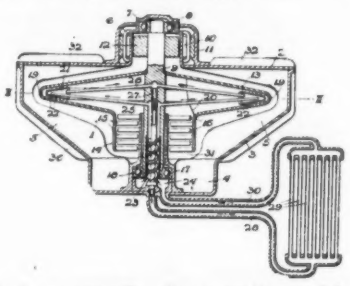
2,529,734. DEFROSTING SYSTEM IN REFRIGERATED LOCKER. Ralph E. Lehmann, Felton, Calif.

2. A refrigerator comprising; a cabinet



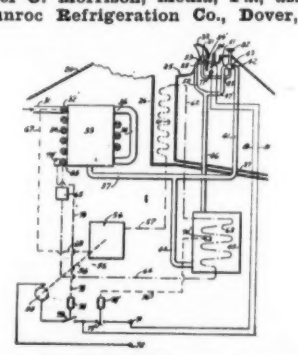
having top, bottom, front, back and end walls; a plurality of locker cans sealed to said front wall and opening therethrough and extending rearwardly in spaced relation to said rear wall and peripherally spaced from each other and from the top, bottom and end walls to provide circulatory paths about each locker can; and a door for each locker can and including sealing means; one of said locker cans having openings for inlet and discharge of air and having a refrigerating unit therein including air circulating means, and also including heating means; and manual control means for selectively controlling said refrigerating unit and said heating means for refrigeration, and for rapid defrosting of the inside walls of the locker cans at will; said cabinet containing a supply of entrapped air at substantially atmospheric pressure for forced circulation about said refrigerating coils and heating means and said circulatory paths by said air circulating means.

2,529,765. CENTRIFUGALLY OPERATED MACHINE. Hellmuth Alfredo Arturo Exner, Florida, Argentina.



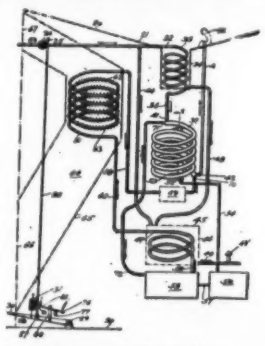
1. In a centrifugally operating refrigerating machine the combination comprising a closed housing, a shaft journaled in the housing, a hollow rotor affixed to the shaft and communicating through its lower end with the housing, atomizing nozzles carried by the rotor and establishing communication between the housing and rotor vaporizing means associated with the lower end of the rotor, a reservoir for liquid refrigerant in the housing and below the lower end of the rotor, a hollow ring rigid with the rotor, inlet means for other liquid refrigerant connected at one end to the ring, radiator means connected to the other end of the inlet means, outlet means for the other liquid refrigerant connected at one end to the ring and at the other end to the radiator means.

2,529,781. WATER COOLER HAVING ADJUSTABLE DRINKING WATER TEMPERATURE AND WATER BLEED. Saumel O. Morrison, Media, Pa., assignor to Sunroc Refrigeration Co., Dover, Del.



1. In a drinking fountain, automatic refrigeration means for cooling drinking water to a comparatively low drinking water temperature, means for warming a portion of the cooled drinking water to a comparatively high drinking water temperature, a mixing valve accessible to adjustment by the user, connections to the mixing valve for water at the comparatively low and comparatively high drinking water temperatures, a dispenser and connections from the mixing valve to the dispenser for distributing the mixed effluent from the mixing valve.

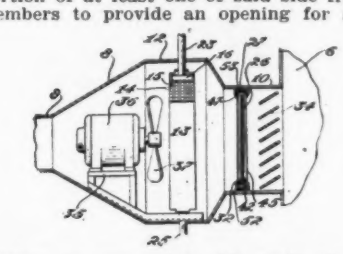
2,529,782. SAFETY REFRIGERATOR. Samuel O. Morrison, Media, Pa., assignor to Sunroc Refrigeration Co., Dover, Del.



1. In a safety water cooler, a refrigeration unit including an electric drive and a water inlet, a dispenser connected to the unit without intermediate valve shut-off and receiving cooled water therefrom, a water valve in the inlet, a switch controlling current to the electric drive, and an operator accessible to the user in position to drink from the dispenser, mechanically interconnected with the valve and with the switch and which both closes the switch and opens the valve.

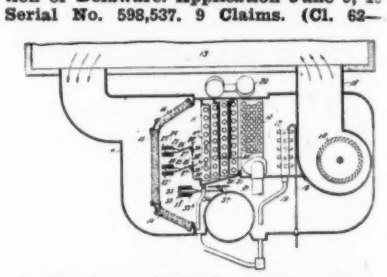
2,529,839. AIR CONDITIONER. Thomas H. Garvey, Natick, and Paul V. Scally, Randolph, Mass. Application June 10, 1947, Serial No. 753,606. 3 Claims. (Cl. 261—106.)

1. An air conditioner comprising a substantially rectangular screen frame assembly having side, top and bottom screen frame members and a sheet of foraminous material substantially bridging the gap between said screen frame members and having its sides and ends secured respectively to said screen frame members, a longitudinal passage formed in said top screen frame member, extending substantially between the side screen frame members adjacent the tops thereof and outwardly transversely of the upper portion of at least one of said side frame members to provide an opening for said



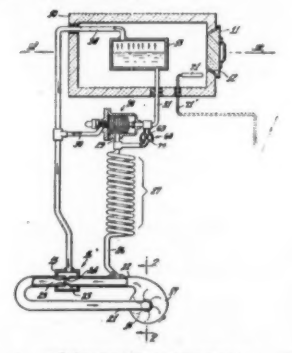
passage in one outer side wall of the frame assembly, a conduit detachably mounted in said passage and extending outwardly of the frame assembly through said opening, said conduit being provided with a series of perforations through which a liquid may flow to said sheet of foraminous material, and means for detachably connecting said conduit to a source of liquid, whereby said conduit may be removed from said longitudinal passage by withdrawing it through said opening and without removing the foraminous material from the screen frame members.

2,530,158. AIR CONDITIONING APPARATUS HAVING CONTROL MEANS. [illegible] Edberg, Evansville, Ind., assignor to Servel, Inc., New York, N. Y., a corporation of Delaware. Application June 9, 19[illegible], Serial No. 598,537. 9 Claims. (Cl. 62—[illegible])



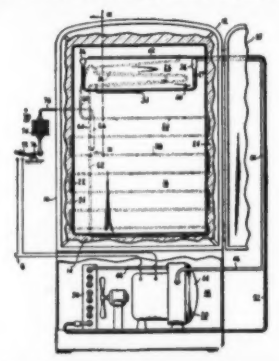
1. An air conditioning system including an air duct, a cooling element located in said air duct, said cooling element including a plurality of sections arranged in vertical spaced relation one directly above another, a blower for conveying air through said air duct and over said cooling element, means operable responsive to the temperature of certain lower sections of said cooling element for blocking flow of air over said certain lower sections while continuing the flow of air over certain upper sections thereof, and means operatively connected to said last named means for by-passing air around said cooling element.

2,530,293. EJECTOR PUMP REFRIGERATING APPARATUS. Warren H. De Lancey, Springfield, Mass., assignor to Atlantic Development Co., Springfield, Mass., a corporation of Massachusetts. Application July 11, 1947, Serial No. 760,201. 4 Claims. (Cl. 62—4.)



2. In a refrigerating apparatus of the type described, an evaporator, a condenser, a centrifugal pump for forcing refrigerant through said condenser, an ejector connected in series with said centrifugal pump for drawing vapor from said evaporator, a normally closed connection between said condenser and said evaporator, and means responsive to a predetermined pressure differential existing between the fluids contained within said evaporator and said condenser for increasing the volumetric capacity of the high pressure side of said apparatus before opening said connection between said condenser and said evaporator.

2,530,333. TEMPERATURE CONTROL APPARATUS. John A. McLean, Jr., Springfield, Mass., assignor to Westinghouse Electric Corp., East Pittsburgh, Pa.



1. In refrigerating mechanism, the combination of a primary evaporator, apparatus for supplying said primary evaporator with a volatile liquid refrigerant and for withdrawing vaporized refrigerant from said evaporator, thermostatic control for rendering said apparatus active and inactive, and a secondary volatile refrigerant circuit operating at the same pressure throughout, said secondary circuit having a first portion in heat transfer relationship with said primary evaporator for condensing refrigerant vapor in said secondary circuit, said circuit having a second portion for absorbing heat to vaporize refrigerant liquid in said circuit, said secondary circuit having a third portion for conducting refrigerant vapor from said second portion to said first portion, said circuit also having a fourth portion for conducting refrigerant liquid from said first portion to said second portion, said thermostatic control including a temperature-responsive actuating element in heat-transfer relationship substantially solely with said fourth portion of said circuit.

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4-16-51

AIR CONDITIONING & REFRIGERATION NEWS, 450 W. FORT ST., DETROIT 26, MICH.

Refrigeration Problems

and their Solution

by Paul Reed

For Service and Installation Engineers

Paul Reed

Detecting Refrigerant Leaks (3)

Before 1922, practically all of the household electric refrigerators used sulphur dioxide as the refrigerant; and this was true of most of the small commercial types of installations. The reason was that SO_2 was about the only refrigerant that was suitable for small equipment.

Methyl chloride came into use in the early twenties and was adopted by several of the early manufacturers of electric refrigerators; and by the end of the twenties, sulphur dioxide was used by only a few manufacturers.

Methyl chloride had quite an advantage over sulphur dioxide as far as objectionable odor and toxicity were concerned, but leaks in methyl chloride systems were much more difficult to detect and locate. For this reason, many servicemen with previous sulphur dioxide experience were inclined to be quite critical of this new less odorous and less toxic refrigerant.

But the public felt otherwise. They preferred the less odorous methyl chloride; so naturally sulphur dioxide began to fade out of the picture, and methyl chloride became increasingly popular.

However, methyl chloride was moderately flammable and somewhat toxic, so the scientists set themselves to concoct a refrigerant somewhat similar to methyl chloride as far as odor, or rather lack of it, was concerned, but non-flammable and non-toxic. The result was "Freon-12" which came into use during the late twenties, and which, with other members of the "Freon" family has almost entirely displaced sulphur dioxide and methyl chloride in the United States.

"Freon-12" also had the same disadvantage as methyl chloride in that originally, there was no easy leak test for it comparable to the ammonia swab test for sulphur dioxide. That is, there was no test that produced a visual reaction, such as a white smoke, that gave a quick sensitive and easily recognized visual indication of a leak.

"Freon-12" like methyl chloride, had chlorine in it, and also some fluorine. Chlorine and fluorine are two of a group of five chemicals known has "halogens," the other three of which are bromine, iodine, and cyanogen.

THE HALIDE TORCH

It so happened that the chemists knew of a test for the presence of a halogen, known as the Bielsen test. From this test they developed a means of detecting the presence of any gas that contains any of the halogens.

The test involves heating a piece of copper to "incandescence" that is, red-hot, and then letting the gas containing the halogen (in the case of methyl chloride, chlorine, and in the case of "Freon-12," both chlorine and fluorine) come into contact with the red-hot copper. The refrigerant "disassociates," that is, it breaks up, and the chlorine unites with the copper to form copper chloride.

If the copper is heated by an alcohol, gasoline, acetylene, or similar flame, the copper chloride causes the flame to change to a bright blue-green. In this way, the presence of a gas that contains chlorine, can be detected by the flame changing color.

Thus by putting a small piece of copper near enough to a torch flame that it is kept red-hot, and then bringing the red-hot copper and flame near a joint suspected of leaking "Freon-12," methyl cloride, or other refrigerant containing chlorine, a leak of the refrigerant from the joint will cause the flame to change color.

This test is quite sensitive and will detect very small leaks. Moreover, the degree of change of color of the flame is an indication of the size of the leak. Therefore, the test not only shows whether there is a leak, but it also indicates whether the leak is relatively large or small.

THE EXPLORING TUBE

A flame from a torch is a "strong" flame, and draws the air near the flame along at high velocity. It creates a strong suction of air below the flame, so if one end of a tube is placed near the bottom of the flame, a suction of air is induced through the tube.

In this way the tube can be used as an "exploring" tube to pick up air around a joint suspected of leaking refrigerant, and this air is sucked up to the flame. If this air, sucked up to the flame, has any refrigerant in it, the flame changes color. Thus, the farther end of the tube can be moved about a suspected joint to be tested, and the torch flame held stationary.

However, this "dilutes" the air to the flame and lessens the concentration of refrigerant, and reduces to some extent the sensitivity of the flame in detecting very small leaks.

Moreover, it takes a little time for the air to travel from the open end of the tube, up to the flame, and in the meantime, the end of the tube may have been moved. This tends to show the location of the leak somewhat past its real location; so if a change in flame color is noted, the end of the exploring tube should be moved slowly around the joint, in order to accurately locate the leak.

The less the gas from the joint is diluted in air the more sensitive the test, so the tube should be as short as it conveniently can. Also it should be no greater in diameter than necessary. Obviously, there should be no leaks in the tube, for the greatest sensitivity requires that all of the air through the tube come from the vicinity of the joint being tested.

It is also obvious that the air around the equipment be free of refrigerant. If the leak is large, there may be so much "Freon" in the room that the torch flame becomes discolored as soon as it is brought into the room.

Just because one leak is found is no sign that there may not be others. If one leak is a rather large one, it may contaminate the air around the equipment to be tested and thus make it difficult if not impossible, to detect additional, smaller leaks.

After locating a leak, especially a rather large one, repair it, and then ventilate around the equipment before again re-testing the other joints.

In the case of torches that burn alcohol, do not fill the torch with alcohol in a room that may be contaminated with refrigerant, for it may be absorbed into the alcohol and cause the flame to be discolored all the time.

FUELS

The best alcohol for the alcohol type torches is methyl alcohol. The torch is more sensitive when using methyl alcohol than ethyl alcohol. Use a specially "dry" grade of methyl alcohol. Water in the alcohol is left in the tank of the torch and gradually accumulates. Remove the cotton occasionally and dry it well to free it of the accumulated water.

It is easier to distinguish a change in color of a small flame than a large one, so the small flame is much more sensitive in discovering small leaks. The flame must, however, be strong enough to form sufficient suction to draw air up through the exploring tube.

AFTER-EFFECT

After considerable use, especially after being exposed to large concentrations of "Freon" or methyl chloride, the flame may continue to burn with blue-green color even after or if it is no longer exposed to refrigerant gas. Copper oxide forms on the copper reactor plate or ring and on other parts of the torch. This is called the after-effect.

After-effect may also result from partial stoppage of the orifice of the burner. The burner must, therefore, be kept clean and the reactor replaced occasionally. The copper oxides that form and which cause the after-effects usually burn off in time but they can be removed by dipping the parts of the lamps *while red-hot* into water.

THE HALIDE CANDLE

Having been in use in Europe two or three years, the halide candle is now available in America. It operates in essentially the same manner as the halide torch. The copper wire is imbedded spirally in the body of the specially prepared wax, and around the wick, in such a way that the wire is heated red-hot but stays just outside the flame so that the leaking gas can strike the wire, causing the flame to change from the customary white to a bright blue.

The small size of the flame of the halide candle makes for a high degree of sensitivity. Also, since the wire is burned away as the candle burns downward, new copper is constantly presented, so there is no after-effect.

However, the flame of the halide candle is not strong enough to induce air flow through a tube so no exploring tube is used, and the flame of the candle is presented directly to the joint to be tested.

When testing joints for leaks, it is well to wipe the joint free of oil, dirt, lint, or other materials that may tend to reduce the sensitivity of the torch or candle, and which may become ignited.

Next we will discuss two electrical leak-detection devices that have come into use within recent years—the ultra-violet lamp and the "electronic" type tester. The submersion type test and the pressure hold-over methods will also be described.

(To Be Continued)

C-H Names Proudfoot Cleveland Sales Mgr.

MILWAUKEE—Appointment of O. P. Proudfoot as manager of the company's Cleveland district sales office was announced recently by P. S. Jones, vice president in charge of sales for Cutler-Hammer, Inc. here.

O. P. Proudfoot

Proudfoot succeeds R. J. Eckstein, who passed away on Feb. 14.

Proudfoot joined Cutler-Hammer in 1928 as a student trainee. After two years training, he was assigned to the Pittsburgh district sales office. Two years later he returned to the headquarters sales office where he remained until 1946.

From that time until his recent appointment, he was a member of the Buffalo district sales staff for the company.

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Send your shaft problems to us! For more than 20 years we have been making precision shafts of all types for air conditioning and refrigeration compressors. We offer you the experience, the skill and the facilities to produce exactly the kind of shaft you need. Send blueprints for quotations on any type of shaft you may need.

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RATES for all other classifications $7.50 per insertion. Limit 50 words. 15¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count. Please send payment with order.

POSITIONS WANTED

EXECUTIVE WITH extensive experience in the refrig., heating, and air cond. industry, presently employed, would consider position with well established corp. or company. Personal qualifications: Right age. Wide acquaintance in industry. Aggressive and ambitious. Abilities: Assume hvy. responsibilities, sales management, organizational, promotion, ingenuity and ability to deal with people. Write BOX 3713, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

SALESMAN FOR Liquid Carbonic distributor in Buffalo, New York. Must be experienced in food store layout and equipment. Salary, expenses and bonus. This is an excellent opportunity for the right man. Must have proven record and best references, none other need apply. ALEX J. MILLER, INC., 562 Broadway, Buffalo, New York.

JOURNEYMAN WANTED—Excellent opportunity for competent refrigeration (domestic & commercial) and air conditioning mechanics with 15-year established company. Franchised Frigidaire, Servel and McCray dealer. Men with "Frigidaire" dealer or branch experience preferred. Contact and send qualifications and references to E. S. Bailey, Service Manager, REFRIGERATION EQUIPMENT CO., 1515 Fourth Ave., San Diego, 1, Calif. Telephone F-7431.

DISTRIBUTORS AND dealers wanted to sell our fast growing Strata Aire farm & home freezers and front opening milk coolers. Must be experienced in this type of sales & service. Write, giving experience & territory desired to: STRATA AIRE, INC., Rittman, Ohio.

SALESMAN FOR Hussmann distributor in San Diego, California. Must be experienced in food store layout and equipment. Salary, expenses and bonus. This is an excellent opportunity for the right man. Must have proven record and best references, none other need apply. WRIGHT REFRIGERATION, INC., 4025 Pacific Highway, San Diego, California.

COMMERCIAL REFRIGERATOR salesman. Must be familiar with Hussmann or similar equipment, able to figure own jobs and handle store layout. Excellent opportunity with progressive organization. Salary and commission. Also have opening for competent wholesale man. Give complete details background and experience. ZEROZONE HOUSTON COMPANY, INC., 1120 Wood St., Houston, Texas.

AIR CONDITIONING salesman—top rank. We offer permanent job, constant promotion, effective advertising, complete inventory stock, highest pay, all selling expenses paid, by established aggressive Carrier distributor midwest metropolitan city. We want only one thing from you—sales results. If you can close sales and want a five-figure income, write BOX 3701, Air Conditioning & Refrigeration News.

LARGE IMPORT—export firm Singapore desires contact energetic young man head refrigeration department—domestic, commercial and air conditioning equipment. Distributor for large U.S. manufacturer. Permanent for man who can qualify. Canadian under 35 preferred. Give full particulars education, training and experience with references and recent photo. BOX 3714. Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

ICE MAKERS—Inventory Close-Outs—Bush-finned booster coil on each side—New, in original crates. 6 tray—21½" long—18½" deep—14" high balances ½ H.P. compressor. 8 tray—21½" long—18½" deep—11" high balances ⅓ H.P. compressor. 10% discount for six or more at one time. A.P. Solenoids 3/16" orifice—⅜" inlet and outlet 110/220v. Write for special close-out prices. FOGEL REFRIGERATOR CO., 5400 Eadom St., Philadelphia 37, Pa.

COMPRESSOR BODIES, brand new; model #19 good up to 1-HP, @ $38; includes flywheel and service valve. The last of a large quantity. First come, first served. MANN REFRIGERATION SUPPLY CO., 15 Astor Place, NYC, GRamercy 3-8000.

¼-HP 0-25 prominent brand condensing units complete; brand new; limited quantity; act now; $52. each FOB New York; write for specifications; other sizes also available; MANN REFRIGERATION SUPPLY CO., 15 Astor Place, New York 3, N. Y.

FOR SALE: 15-Ton Evaporative Condenser. Air Unit. 2 - Warm Air Conditioners. 25-Ton Compressor. 3-Ton Self-Contained Air Unit. 10-Ton Self-Contained Air Unit. 40-Ton Compressor, complete with motor. Below Market Prices—Immediate Delivery. J. J. NOLAN & CO.,

1950 GENERAL Electric 3 and 5 ton conditioners in crates. Also milk coolers and five 1950 York ½ and ¾ H.P. window units. Write for prices. SCHOUTEN-KLOKNER COMPANY, 153 N. Pearl, Green Bay, Wisconsin.

BUSINESS OPPORTUNITIES

FOR SALE: Refrigeration business established 1937 in fast growing West Coast city. Shop 52 x 22 completely equipped, five room modern home same lot. Also locker plant 120 units, nearby in same city, will sell separately, priced reasonable. For further details write RILEY REFRIGERATION, 3428 East Fourth Street, Long Beach 14, California.

$500 AND your choice of inventory at cost buys established refrigeration service business. Gross income for September 1950, $1012.00. Located in industrial city of 150,000, 55 minutes from Chicago. If desired shop and 3 bedroom home may be purchased with low down payment. Write BOX 3715, Air Conditioning & Refrigeration News.

SCHOOLS

VETERANS ATTENTION: Enroll in the school of your choice before the July 25 deadline. For men engaged in or who would like to become engaged in any phase of air conditioning, refrigeration, heating, ventilating, heat pump engineering or sheet metal work, classes before the July 25 date start April 24, June 5 and July 17. Write for catalog. DETROIT AIR CONDITIONING INSTITUTE, 4258 Woodward Avenue, Detroit 1, Michigan.

MISCELLANEOUS

NORGE SEALED units remanufactured and exchanged. Immediate delivery from stock, 1 year warranty. Write for prices and shipping instructions. Genuine Norge terminals for Norge sealed units. Complete set of three, $1.45 plus postage. MODERN REFRIGERATION CO., INC., 12541 E. McNichols Road, Detroit 5, Michigan.

Conference Future--

(Concluded from Page 1, Column 2)

Manufacturers Association, which organization has co-sponsored the shows in conjunction with the Refrigeration Service Engineers Society. Rema also sponsors the All-Industry Show.

With a registered attendance of over 1,000 viewing the educational exhibits of 75 manufacturers set up in the Statler hotel, the sponsors expressed themselves as well satisfied with the Buffalo conference. Some 250 members of the industry from Canada crossed the border to participate in the conference.

Host chapters for the Buffalo conference were the Empire State Association of RSES, the Niagara Frontier chapter, and the Interprovincial Association of RSES.

In the contest for service engineers, sponsored by Refrigeration Equipment Wholesalers Association, to name and describe the most educational exhibit, Alco Valve Co. won the plaque awarded to the manufacturer receiving the most mentions, with Detroit Lubricator Co. second, and Sun Oil Co. third.

Pricing Amendment--

(Concluded from Page 1, Column 4)

up on goods covered by this regulation.

Retailers of electrical housewares will find these items falling into category 906.

The text of this category reads:

"Category 906—Small Electrical (Houseware) Appliances.

"This category includes all types of small electrical houseware appliances. Excluded are large major appliances, such as refrigerators.

"Examples of the articles included are:

"Electric toasters, electric mixers, electric grills, electric waffle irons, electric irons (including steam irons and travel irons), electric heating pads, electric coffeemakers, electric fans, electric ventilators, electric juicers, electric sun lamps, electric broilers, electric hot plates.

"Electric roasters, electric portable heaters, electric bottle warmers, electric curling irons, electric hair driers, electric casseroles, electric chafing dishes, electric corn poppers, electric egg cookers, electric teakettles, etc."

Dealers are expected to make pricing charts based on their net cost of goods, gross margin, and selling price on March 31. They must prepare these charts and submit them to their district OPS office by April 30. If the charts are not submitted by then, they will not be able to sell electric housewares until the chart is submitted.

Then they must receive an acknowledgement of receipt of their chart by May 30 from the OPS office or again they cannot sell housewares after that date.

Once they have submitted their charts, dealers can begin using the profit margins they have computed on the charts.

For dealers who have not previously sold electrical housewares and start to do so after March 31, the OPS has established an arbitrary markup of 50% over net cost as the basis on which to determine their ceiling prices.

How dealers are to compute their ceiling prices is described fully in CPR 7, copies of which are available in district OPS offices.

The regulation also notifies dealers that they are henceforth prohibited from charging more than ceiling prices, buying for more than ceiling prices, changing the customary terms of sale, selling controlled goods in combination with uncontrolled items, doing anything that would directly or indirectly increase the ceiling price, or attempting to violate the regulation.

Violators are subject to both criminal penalties and civil actions.

Worker Deferment--

(Concluded from Page 1, Column 3)

Commerce Department in revising its list. To be rated as "essential," the products or services of the activity have to:

1. Be essential to the defense program or to civilian health, safety, or interest.
2. Be inadequate to meet defense and minimum civilian requirements, or be in a position where "a seriously short supply is indicated."
3. Be one in which current employment levels are being increased or, at least, maintained.

In addition to the industry groups noted above, the new list includes agriculture and commercial fishing, forestry and forest industries, metal and non-metal mining and milling, smelting, refining, and processing of metal, scrap salvage, services supplied for transportation communication, power, water supply, health, welfare, and education and research.

Also, production of wood products, pulp, paper, and board, machinery and equipment, communication equipment chemical and allied products, rubber and allied products, leather and leather products, stone, clay and glass products, petroleum, natural gas, and petroleum and coal products, transportation equipment, and shipping containers.

The list "is not designed for use in connection with priorities, materials allocations, rationing preference, or other similar purposes," according to Secretary Charles Sawyer.

"The sole purpose is to serve as a guide in obtaining manpower for the armed forces," he said.

It was indicated that any industry in which employment is declining will have a difficult time qualifying as an "essential" part of the defense program.

York Appoints R. F. Lauer Engineering, Research Vice President

YORK, Pa.—Rodney F. Lauer, one of America's pioneers in the development of high altitude chambers and all-weather rooms for the Armed Forces, has been named vice president in charge of engineering and research by York Corp.

Rodney F. Lauer

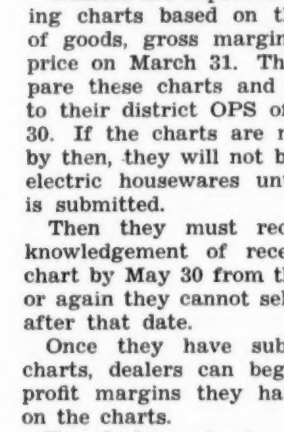
Lauer, who has been with the air conditioning and refrigeration firm since he received his degree in mechanical engineering at Cornell university in 1930, had been managing York's Pacific District since 1944.

During World War II, he engineered the first combination "strato" chamber and all-weather room for the U. S. Navy, and has since played a major role in the development of similar projects for the Armed Services.

When a highly sensitive air conditioning plant was needed during the war for the manufacture of radar and television tubes, Lauer was given the task of engineering the system, which at the time was regarded as one of the most difficult problems in the air conditioning and refrigeration industry.

While an undergraduate at Cornell university, Lauer worked in the York shops during vacations. After graduating from Cornell, he entered the York student engineering training course, after which he was assigned to York's Middle Atlantic District with headquarters in Philadelphia as a field engineer.

He remained in Philadelphia until 1942 when he became manager of the York National Service office in Washington, D. C. Subsequently, he was promoted to district manager, Pacific district.



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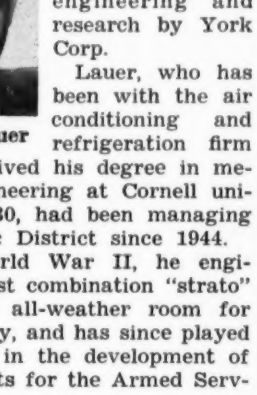

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ANSWER: Switch to Sweden AND STRETCH PROFIT MARGINS

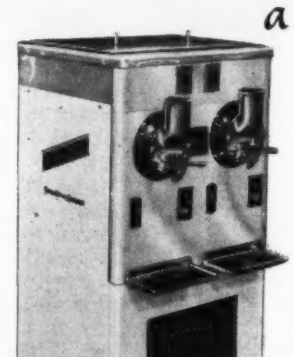
The squeeze is on! But smart operators can put their fountains back in the profit picture by serving Soft Ice Cream, Frozen Custards, Milk Shakes, Malts *fresh* from a SWEDEN Speed Freezer.

OPERATOR APPEAL—SWEDEN cuts food costs sharply by eliminating hard ice cream shrinkage... using less expensive ingredients. Labor costs are reduced even more drastically through elimination of dipping, scraping, handling. Profit margins are stretched on every sale.

APPETITE APPEAL—The delicious flavor and smooth texture of SWEDEN products make them consistent all-season volume-builders. Superior SWEDEN design and engineering assure uniform quality under all conditions of operation.

SWEDEN gives MORE SERVICE... needs LESS UPKEEP!

a Model for Every Need



MODEL 1-131A20 (At left)—Batch-feeding freezer for busy fountains... Automatic filling during rush periods from refrigerated stainless steel supply tanks. Compact... easy to operate and keep clean.

SWEDEN SPEED FREEZERS

For details, refer to classified phone listing "Ice Cream Freezers" for your local dealer; or write, wire or phone

SWEDEN FREEZER MANUFACTURING CO.
DEPT. S-1 SEATTLE 99, WASHINGTON

THE MASTER SERVICE MANUALS - - -

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